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NEWS SUMMARY

COMMENTS by the Ministry of Works and by the builder of the first Ministry firm-price contract completed since the war are given. p. 490

THE CITY CORPORATION'S Special Committee has issued a report in which the creation of a residential neighbourhood in the Barbican area is recommended. p. 501

DURHAM COUNTY education committee recommend the building of five schools on one site around a common 'Campus.' p. 503

THE PARTICULAR difficulties within the building industry of applying the results of research are discussed by the Building Research Board in their annual report. p. 505

'I AM MYSELF convinced that the curriculum for the AMTPI and the day-to-day planning experience in England are not related to overseas work,' Mr. Thornley Dyer told the T. and C.P. Summer School. p. 510

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ELEVATIONAL EXPRESSION

OUR pages have lately borne witness to some measure of concern, in both professional and lay quarters, about the elevational expression of certain classes of contemporary building. It has been said that what looks like a block of flats may turn out to be a town hall; a pumping station a church; a power station a concert hall; an office block a department store; and so forth. There is undoubtedly something in the criticism.

Architectural masquerading, of course, is nothing new. As Mr. Kenyon pointed out in an article in our issue for July 26, in the past railway stations often looked like Greek temples (also like Gothic town halls), town halls like mansions, and concert halls like museums, though, oddly enough, certain types of building have generally succeeded in looking like what they really are—schools, prisons and churches for example.

It is not to be thought that contemporary architects are deliberately trying to make their buildings look like something they are not, and one must search deeper for an explanation of this peculiarity when it occurs. One need not look farther, we feel, than frame construction, which has become so dominant a feature of contemporary building. When traditional building methods were almost universally followed—and that is up to some 60 or 70 years ago—association of ideas was a powerful influence in design and consequently in public appreciation of architecture, and it was easy to stamp some buildings externally with their purpose. In the case of a church, for example, pointed arches, traceried windows and steeply-pitched roofs were obvious clues, and when a steeple was added there was hardly any room for doubt about the purpose of the building. With the virtual abandonment of historical stylism things are not so easy. Many a 'non-traditional' church would be unidentifiable were it not for the symbol of the Cross in the gable of the entrance front or on a side wall.

In buildings where the load-bearing wall has been abolished and the structural frame is doing all the work it would be absurd to revert to unnecessarily solid walls with traditional fenestration and decorative trappings. On the other hand, if some sort of familiar treatment is thought to be desirable, one shudders in the case of a church at the possible alternative of prefabricated Gothic cladding, if some misguided manufacturer should be criminal enough to produce it. If contemporary design is to flourish it must use contemporary construction and materials honestly.

We are all pretty well agreed that as far as possible a building should express its purpose in its elevations. It would be untrue to suggest that the architect generally fails in this aspect of his work. In some classes of building using contemporary techniques and materials he has succeeded in evolving unmistakably new types—schools, flats and office blocks are instances—and his very success has involved him in criticism about 'sameness,' 'dullness' and 'lack of decorative embellishment.' It seems to be forgotten that he is generally working within strict economic limits. He would be better praised for the success he has achieved than blamed for any comparative failure.

In any case, 'contemporary' techniques and materials are in their infancy. It took a long time for masonry construction to evolve from the static calm of Classic to the dynamic vitality of Gothic. We should not expect too much too soon. At the risk of casting a deeper gloom over the 'expressionists,' however, the possibility has to be pointed out of buildings being even less amenable than they are at present to revealing purpose through elevations. Light cladding and curtain-wall techniques are on the increase, and their use is not limited to any particular class of work. Ultimately we may have to fall back on old-fashioned labelling or some system of symbolic devices for the identification of some of our buildings.

Notes of the Week

Overseas Contracts

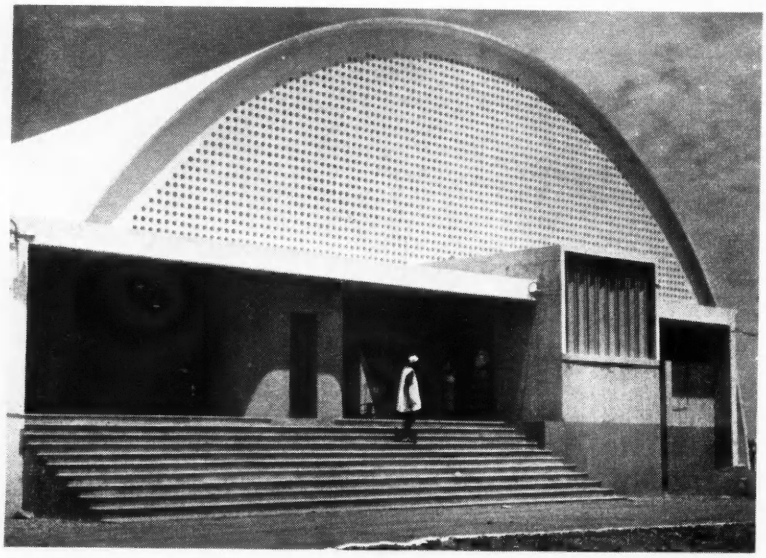
IT is good to read from figures issued by the Ministry of Works that the value of work carried out overseas by British contractors in the year ended March last was £94 m., an increase over the previous twelve months of £7 m. Nearly 60 firms were working overseas, their activities covering more than 50 countries. This very substantial contribution to the balance of trade made by the industry is to be welcomed.

It is the more disappointing that the value of new contracts obtained during the period was only £92 m. compared with £109 m. in the previous year. Undoubtedly the Middle East difficulties played their part here, but there have been other factors involved, in which some degree of over-confidence in estimating may have played its part. Whatever the reason, the degree of success which has been attending such countries as Italy, Germany and USA (this last nation carried out about £250 m. worth of work in the comparable period) is to be carefully noted.

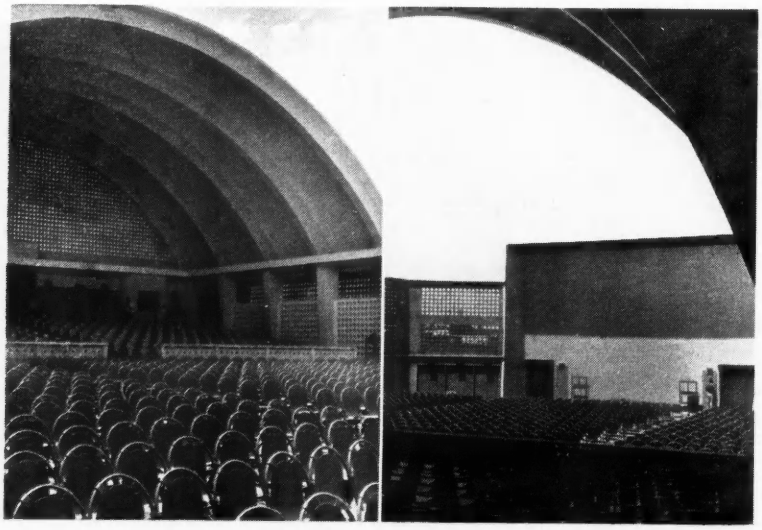
☆ ☆ ☆

ANY EXTENSION of the field for British contractors to quote and carry out work must be welcomed, and much interest attaches to the delegation to the Chinese Peoples' Republic now being organised from London by the Sino-British Trade Committee. Our Hong Kong correspondent in this connection writes: 'There is a tremendous field to be developed in China but the longer the "wooing" of trade is delayed the more things they are producing themselves. I understand that the building going on there is heavy and out of date, and there should be possibilities of developing demand for finishes and indeed complete construction.'

In view of this opinion, and the fact that a French Government Mission to China includes the chairman of the French Public Works Federation, it seems clear that the British Mission should undoubtedly include a representative of the British building industry.



CINEMASCOPE THEATRE, NORTHERN NIGERIA.—Shown here is the first of five CinemaScope theatres to be built in Northern Nigeria by Abed Bros. Ltd. The architect for this one was Joseph Younes and the contractors Alberto & Boglialla. The view above is of the main entrance and those below of the operating box (left) and the proscenium



Overseas Engineers' Course

FOR THE first time the British Council, in conjunction with the Cement and Concrete Association, is holding a course for overseas engineers on 'Methods of Concrete Usage.' The course, which opened on September 16, continues until the end of next week and is attended by 17 members from 13 Commonwealth, Colonial and European countries. It is being held at the Training Centre of the Cement and Concrete Association which is attached to the Association's Research Station at Wexham Springs, near Slough, in Buckinghamshire. Some 5,000 engineers and other representatives of the building and civil engineering industry have passed through the Training Centre in the past eight years.

The course is designed to provide an up-to-date survey of methods of producing and using concrete and consists mainly of lectures and demonstrations in which members of the course are encouraged to join. The lectures are, in the main, given by members of the staff of the Cement and Concrete Association but leading representatives of the industry also lecture during the course.

The range of subjects covered includes the production of concrete for various uses, construction in reinforced and prestressed concrete, the development of precast concrete for structural use, the surface treatment of concrete to provide variety of colour and texture, and the construction of roads. Into this latter field fall not only concrete roads but roads constructed by stabilising soil with cement and a special visit has been arranged to a site where roads are being made by this method.

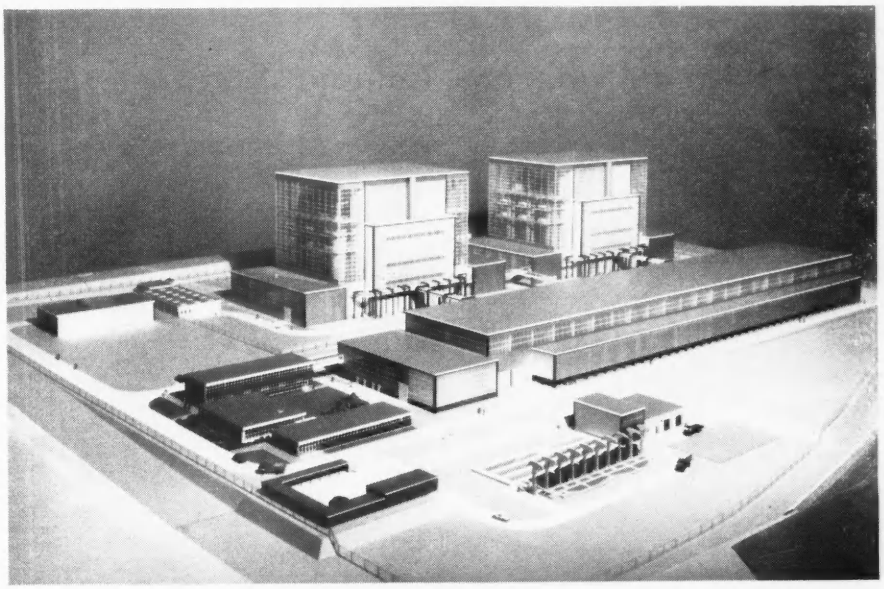
To enable the members of the course to see the neighbouring countryside during their stay, tours of Windsor, Eton and the Thames Valley have been arranged as well as a week-end visit to Stratford upon Avon and Oxford.

Problems of Industry

BY 1970 many industries in and around Birmingham will have to move to new areas. Some must move because their sites are required for other purposes—housing, roads, open space. Some because there is no room for them to expand. Others because their premises are worn out and cannot be replaced on present sites. What are the problems of industry in moving to new locations?

ATOMIC POWER STATION, HINKLEY POINT.

The atomic power projects group, English Electric Co., Ltd., Babcock & Wilcox, Ltd., and Taylor Woodrow Construction, Ltd., have been awarded the contract for a new power station at Hinkley Point, Somerset, by the Central Electricity Authority. The output of this new atomic station will be 500,000 kW, from two reactors of the gas-cooled graphite moderated type, fuelled by natural uranium. Each reactor will be connected to six steam-raising heat exchangers and the electrical output will be generated by six 93,500-kW, 3,000-rpm hydrogen-cooled turbo-alternator sets. Consultant architect is Frederick Gibberd, CBE, FRIBA, MTPI



How far can firms be reasonably expected to move? What are the advantages of moving to an expanding area? Will workers move with firms?

Information and views on these topics, based on studies and on actual experience will be presented to delegates at a joint conference on 'Problems of Industry' organised by the Town and Country Planning Association and Midlands New Town Society, on October 15, at Friends House, Bull-street, Birmingham.

Multi-storey Parking Garages

FUTURE historians may well be astonished that such a thing could happen in the country that originated the industrial revolution, but the fact is that Britain has been caught napping by the coming of the motor age. One result of this is that, while parked cars now block the streets of our cities, very few of the inhabitants of these islands have ever even seen what a modern multi-storey garage looks like. It is timely, therefore, that No. 19 of the *Trussed Concrete Review* (obtainable from the Trussed Concrete Steel Co., Ltd., Truscon House, Lower Marsh, SE1), should be devoted to an article on multi-storey parking garages, by E. G. Kitching.

The review, which is well illustrated with photographs of multi-storey garages in the United States and other countries, points out that modern parking garages tend to be planned on one of two distinct systems: ramp or mechanical. Both types are described in considerable detail, assisted by a number of plans and diagrams. The general conclusion reached is that multi-storey garages are a reasonable commercial proposition, and that contrary to popular belief it should not be necessary for them to be subsidised. The other conclusion is that the ramp garage is likely to prove more economic than the mechanical, except in special circumstances. It is estimated that to make such a garage pay a gross revenue of 8s. to 10s. per car space per day should suffice.

On structural systems the review states that the structural grid merits the most careful consideration, for the floors are heavily loaded and a small increase above a moderate span can add disproportionately to the cost of the building. Furthermore, the omission of external walling can make 'an impressive saving'—perhaps even the difference between commercial success and failure—for it follows that expensive heating and ventilating systems can then be omitted. Incidentally, the first American wall-less garage was built in 1935, and post-war examples have almost without exception followed its example.

CPRE Conference

WITH so many threats to what remains unspoilt of the traditional English landscape by the demands of nuclear power, oil and modern defence needs—in short, what is becoming known as the new industrial revolution—it is appropriate that the Council for the Preservation of Rural England should have chosen 'Rural Problems of the Moment' as the theme of their Eighteenth National Conference, to be held at Hastings from October 17-19.

Among the pressing problems on which addresses will be given are 'Oil Pollution of the Sea,' by Mr. James Callaghan, MP; 'The Nuclear Power Programme and its impact on the Countryside,' by Lord Lucas of Chilworth; and 'Caravans and the English Landscape,' by Mr. W. M. Whiteman, editor of *The Caravan*.

Details and application forms from Secretary, CPRE, 4, Hobart-place, SW1.

Non-Profit Housing

A UNITED NATIONS SEMINAR on housing experience in Denmark, and its possible application to Latin America, was held in Copenhagen in September-October, 1954. A report of this under the above title has just been issued by the UN Department of Economic and Social Affairs (New York, price 9s.). It deals mainly with co-operative and local authority housing and gives a great deal of information on all aspects of the subject. The title of the report, though literally accurate, is rather misleading, for housing finance is rarely obtained without the payment of interest, though this is generally at a low rate. Presumably the term 'non-profit' means no more than the exclusion of speculative building.

Visitor from Johannesburg

IN LONDON for four days last week was Mr. James Thompson, managing director of James Thompson, Ltd., a leading firm of Johannesburg builders. Mr. Thompson had some interesting comments on the building situation in South Africa, which he describes as 'quiet.' There has been some recession from peak figures of a few years ago, he says, and tender prices have become very keen due to the anxiety of contractors to keep their somewhat inflated organisations in being in readiness for anticipated future developments. As a result, some of the leading firms are taking interest in road and bridge work both inside and outside the Union, where it is felt that the days of railway development on any large scale are numbered, on grounds of cost. Increased building activity must naturally follow the further opening up of the country.

Members of the British building industry who know Mr. Thompson and remember the provocative article which he contributed to our special number on African building (*The Builder*, March 11, 1955) will be glad to know that he is in excellent form; with his wife and eldest son he flew out to New York on September 11 where he will study recent building developments, and later will visit Germany and Italy.

CHURCH, MEXICO CITY

La Virgen Milagrosa, Colonia Narvate

FELIX CANDELA, Architect

THE RECENTLY COMPLETED CHURCH OF LA VIRGEN MILAGROSA is in a new lower-middle-class suburb of Mexico City, the Colonia Narvate. The parish is poor, and the site itself is not particularly attractive. The church, nevertheless, is already well known. It was built in 1955. A writer in 'The Concrete Quarterly' says :

The requirement was for an essentially traditional church; it has been met by the normal plan and, more indirectly, by a certain Gothic sentiment in the treatment of the interior. It is a faintly sinister Gothicism—tinged with that subtly macabre quality one comes to associate with Mexican expression. (It has been described by 'Technique et Architecture' as of doubtful suitability for 'un lieu de recueillement' !) There can, nonetheless, be no denying the vitality of the imagination that has produced it, and its intense originality—less, perhaps in the shapes evolved than in the means used to produce them.

In cross-section the structure of this church is derived from the deformation and extreme tilting of the umbrella-shape used in the Tulancingo factory; the concrete throughout is 1½ in. thick. Candela has said that the tensile stresses in this structure are so low that the function of the reinforcement was essentially to maintain the concrete until it hardened, and prevent initial cracking. Candela himself was entirely responsible for the design of this church, both as architect and engineer. It was designed in an afternoon, drawn up in a week, and calculated in the process of construction.

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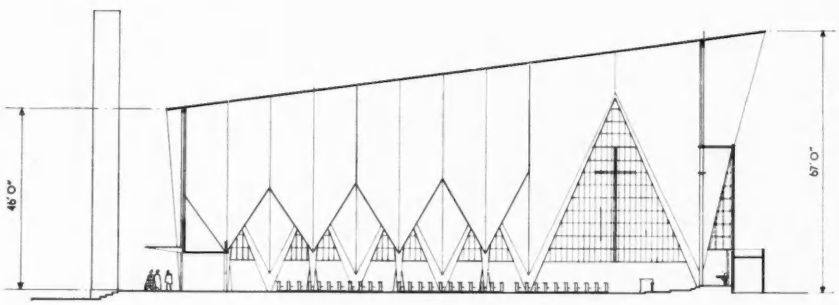
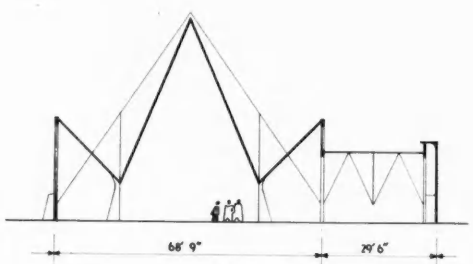
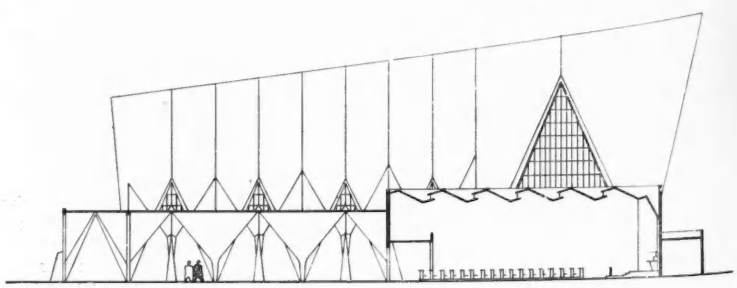


Longitudinal section on the central axis

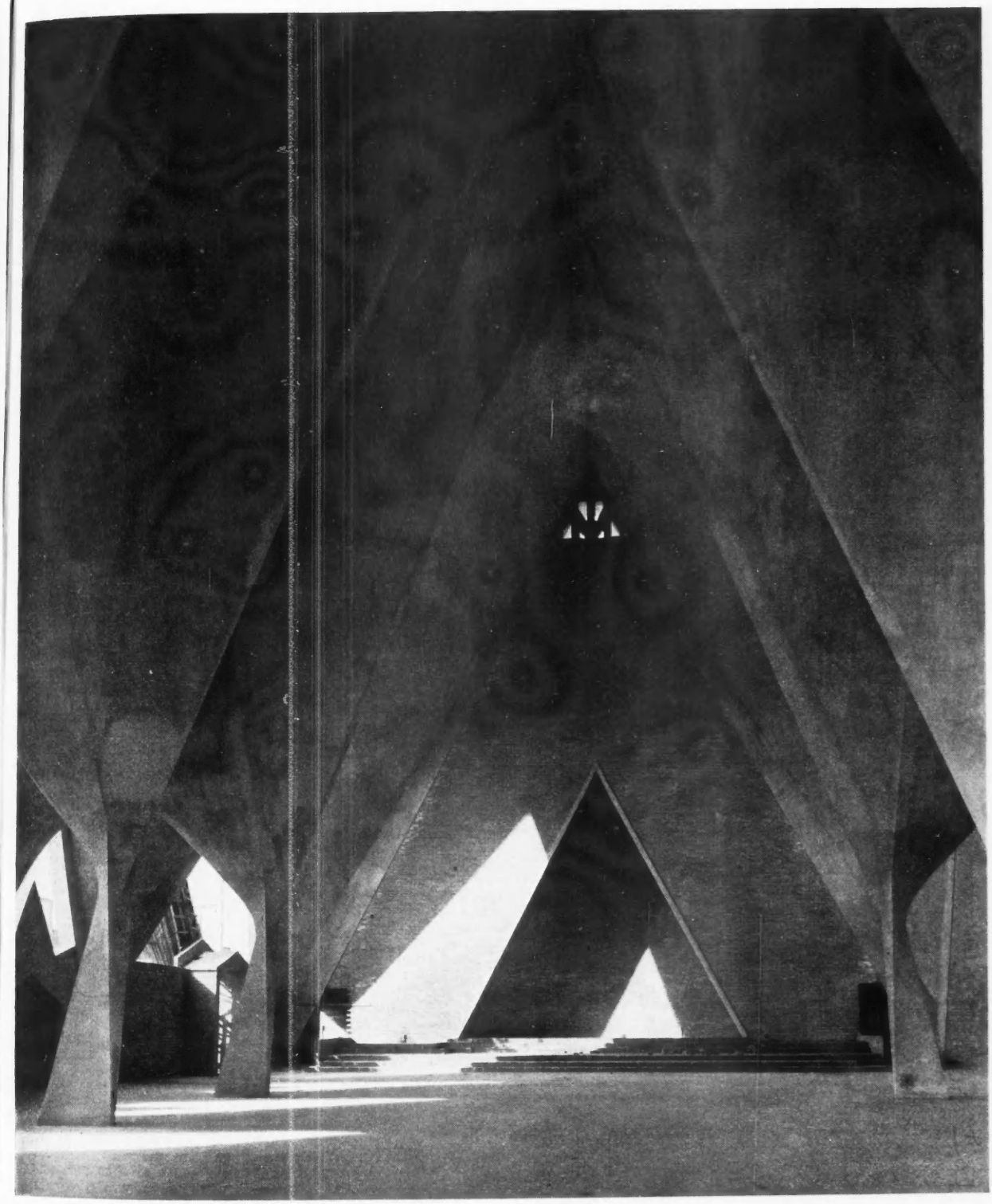


Transverse section



Section through Lady Chapel and part elevation

Church of La Virgen Milagrosa, Mexico City



Interior, looking to Sanctuary

FIRM PRICE TENDERS

First Experimental Scheme Completed: Ministry's and Contractor's Comments

INTRODUCTION: In April last the Minister of Works, Mr. Molson, announced that, following the success of a limited experiment carried out during the previous twelve months, it had been decided that in future all Government Departments would ask for fixed price tenders for all building and civil engineering projects which had been thoroughly planned in advance where the estimated contract period is not more than two years. He added that local authorities and the nationalised industries would be invited to adopt a similar policy.

In view of the effect which this must have on an industry that for the past 18 years has tendered on the Cost Variation Clause (CVC) method, our Special Representative has taken the opportunity afforded by the completion of the first contract completed under the Ministry's experimental scheme (an employment exchange at Littlehampton, Sussex) to put some questions to a spokesman of the Ministry of Works. His answers now follow.—Editor.

Q. What was the Minister's purpose in initiating a return to firm price tendering?

A. Confidence that this attempt to return to a prewar general practice can make a real contribution to more stable costs of building. The Minister does not underestimate the difficulties with which contractors may be faced, but he believes that the industry recognises the urgency of halting the ever-increasing cost of building and will overcome these difficulties.

It must be emphasised that full preplanning is as essential a part of this policy as a fixed price. The Ministry's policy is to secure a predetermined and fixed price for a predetermined and fixed job. The purpose in view is to enable the builder to see the job as a whole in advance and thus to plan its execution fully whilst at the same time giving him a full incentive for efficiency and speed.

Q. Why select April last for the return to the firm price system?

A. The limited experiment begun in the spring of last year showed such promising results that the original intention was to make a general return in the autumn. The Suez crisis, with its effect on the supply and price of liquid fuels, brought temporary difficulties which led the Minister, after hearing the views of the National Federation, to postpone the start until the following April.

Q. The first building built under a firm-price contract for the Ministry has been completed. What lessons have been learned from this and what snags, if any, have been found?

A. The completion of this building, a Government office at Littlehampton, shows that a structure that has been fully planned and drawn before tenders are sought; for which adequate time has been given to tenderers to prepare their bids and for the successful contractor to arrange his programme; in which p.c. items in the Bill are kept to the minimum and the contractor given opportunity and time to invite tenders himself for the specialist work from contractors who may be nominated by the Department; and where a prompt start is made and variations kept to a minimum, can be built quicker and more cheaply than one under a CVC form of contract.

Q. And the snags?

A. There were none. Though admittedly a small job (the cost was about £24,000), the building was completed within the contract period of nine months. Neither at Littlehampton, where the only dispute, quickly settled, arose from an error in the bill of quantities, nor at Manchester (where a Government office tendered for at nearly £500,000 is going up on the same basis) has need been shown for any variation in procedure.

Q. Does Ministry experience to date confirm the view that the margin of additional risk carried by a builder in quoting a firm price is no more than 2 per cent.?

A. The contractor's experience at Littlehampton confirms this. That other contractors engaged on other than Ministry work evidently share this view was shown by a recent tender in your newspaper (*The Builder* of August 30), where the accepted firm price tender of the winning builder at £452,077 was 1.7 per cent. above the £444,577 quoted by the same builder on a form of contract which included a cost variation clause.

Q. It has been said that the return to firm price tendering places the small builder at a disadvantage in comparison with the larger organisation which can exert pressure on its suppliers. Does the Ministry agree?

A. No. The small contractor depends on the smaller job which is completed and settled in a shorter time, and as such his suppliers are more willing to quote him firm prices. Though the very large organisation may seem to have the pull, the bulk of the total of materials and plant is ordered and used by the smaller firms who are on good terms with their local suppliers. Since firm price contracts tend to be settled promptly (since remeasuring, except for variations, checking of invoices with receipts, etc., become unnecessary) the supplier may expect to be paid promptly. Here as elsewhere the man who pays promptly will get the attention.

Littlehampton Labour Exchange. Designed by the Chief Architect's Department, MOW; built by L. F. Richardson

In terms of labour and production of labour, the smaller builder is certainly not at a disadvantage, for he knows his men and gets good output.

Q. How do subcontractors stand under the scheme who are asked to give firm quotations for equipment or materials which may not be required until the final stages of the contract?

A. The fact that a subcontract is placed should enable suppliers to plan their production ahead. Opportunity is given on many Ministry contracts to store materials and equipment on site, and this could be extended to other contracts. It would be agreed that there are some subcontracts which raise problems for manufacturers, but these are comparatively rare. Current experience shows that manufacturers are only too anxious to put in prices.

Q. Is it reasonable to expect the building trade, almost alone among the great industries, to hold its prices when the costs of the products of the nationalised industries—coal, electricity, gas and transport—on which building so greatly depends are not being held? Are builders being unreasonable in thinking that they are being compelled to lead a one-trade crusade against inflation?

A. This matter needs putting into perspective. The Ministry is not freezing prices. Builders are not being asked to give prices based on any rigid schedule of materials and labour; they are being asked to estimate what they consider to be a proper price for the job at current rates and to add a percentage, based on their knowledge and estimating experience, to cover future contingencies. The Ministry's experience of the working of CVC agrees with the view that allowance for what might be called the 'market in futures'—including labour and materials increases, travelling and subsistence costs, etc.—is of the order of 2 per cent., no more, in fact, than could be lost on a contract by a poor agent or foreman.

What builders are being asked to do is once again to employ their skill in estimating, as they universally did before the war. In allowing for the unknown contingency, the availability of statistics—as, for instance, the quarterly articles which appear in *The Builder* based on Ministry statistics—is of assistance to builders in estimating trends, and can thus supplement their own specialised knowledge.

Q. Are the nationalised industries and local authorities following the Minister's lead? Where they are, is the Minister satisfied that the conditions he has laid down as prerequisite—full advance planning, etc.—are being honoured by the client authorities? Should this condition be safeguarded contractually?

A. One or two authorities, among them the Surrey County Council, have stated that they believe the present is not the time to embark on a policy of firm prices, but otherwise there is no information or, for that matter, complaint. Some builders we know are worried about poor preplanning by some local authorities, but the remedy here is in the builders' hands; if the prerequisite conditions are not fulfilled, then the contract cannot possibly be a firm price one, and tenderers can treat it accordingly, and either quote CVC or leave it alone.

Some of the employers' organisations are understood to be considering the inclusion of a 'saving' clause in contracts, but there are difficulties in the way. In any event, such action should not be necessary.

Q. Is the Minister satisfied with the industry's response to the scheme? Have prices dropped, risen or remained constant as a result? Have there been occasions where builders have refused to tender under the new conditions?

A. Prices are competitive and the Ministry as client is now getting value for money. Buildings are going up quicker, and this benefits both client and builder. There has been no shortage of tenderers for any Ministry scheme, though there have been a few cases where invited firms have asked to be allowed not to tender; it should be added that in most cases they have subsequently asked to withdraw the request and take part in the tender competition.

Q. What can the professions do to make the firm price scheme work more smoothly?

A. It is hoped that they will pay particular attention to preplanning, and that they will carry their clients with them. They have an excellent brief in the National Federation's recent booklet.

Architects can also help by reducing the p.c. items in the bill of quantities to a minimum; by allowing the contractor opportunity to quote for these items where he wishes; and by building up the position of the contractor as the organiser of the contract by allowing all sub-contracts, and not least nominated subcontracts, to be arranged by him. The Ministry seeks to avoid placing direct contracts for specialist work, though it may nominate.

The architect can also do much to smooth the way to an economical run by restraining clients from expecting an immediate start on the job. A contractor should be given a reasonable time to study and plan his organisation on the site. For this the Ministry allows up to a month from the signing of the contract.

LITTLEHAMPTON CONTRACT: Builder's Comments

INTRODUCTION: The contract for the Littlehampton Labour Exchange—first completion under the Ministry of Works' limited experimental scheme—was carried out by Mr. L. F. Richardson, builder, of Chichester. The contract price was about £24,000, the work to be completed within nine months. Mr. Richardson, who built many cinemas for the ABC and Odeon groups in Streatham and elsewhere before the war, and now has branches in Bognor and Farnborough, describes himself as a medium-sized builder with 300-600 men working for him, and an annual turnover of between £350,000 and £400,000.

Q. Mr. Richardson. Did this contract present any particular difficulties?

A. None. The subcontracts were arranged, and then a general schedule of works prepared. Progress followed, so much so, that the job was finished over a month before time. No, no snags, except that one item in the bills didn't agree with the drawings, but we got the bills altered, they being part of the contract.

While sorting that one out and studying the drawings and the 'spec,' progress was made with the foundations. Work on the superstructure actually began six weeks after the contract was signed. How many tenderers were there? I don't know, but probably there were more than six. The supervision given by the Ministry staff was good. We did all the work except for the heating and electrical, which was subcontracted and nominated by the MoW. Variations? They were less than 5 per cent.

Q. Do you mind saying what was your basis of estimating?

A. The estimate was based on present conditions and 2 per cent. was added. Was this sufficient? It was more than sufficient. In fact, on this job ¾ per cent. would have been enough.

Q. Would you take another contract on this basis?

A. Yes, any time. The final settlement has not yet been made, but I can tell you this: I've had a fair job. And I'll tell you one thing more: I've enjoyed this contract more than any job for years. The firm price scheme gives a chance to a builder who has initiative, and provided a contractor receives a complete and accurate set of drawings, together with a comprehensive specification, I don't know any real builder who requires more to carry out economically any contract.

CROWN BUILDING, MANCHESTER: Contractor's Comments

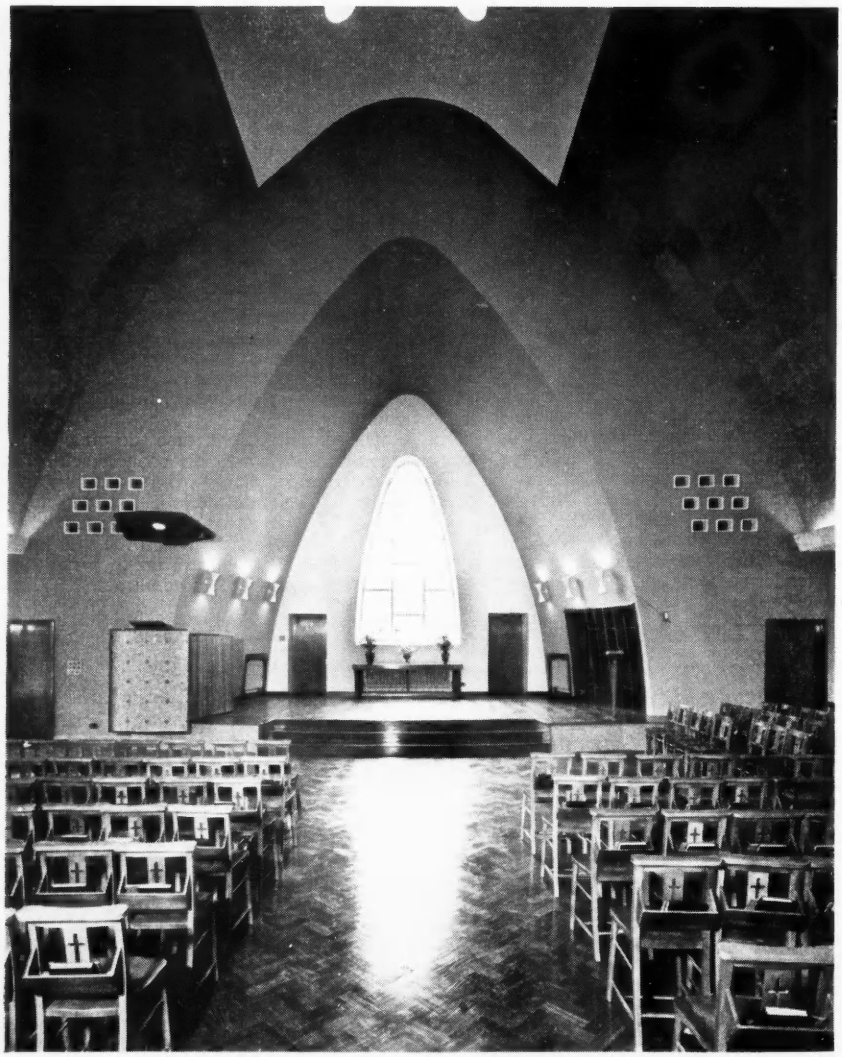
INTRODUCTION: The largest contract for a building let under the Ministry's limited experiment was for a Crown building in Manchester, placed with Messrs. J. Gerrard and Sons, Ltd., at a price of about £480,000. Work began about eight months ago, and Mr. Clement T. Gerrard sends us the following information:

'The job began with a good supply of drawings in January of this year. The contract period is two years.

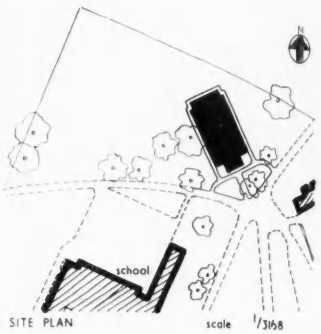
'Sir Charles Mole, his architects, engineers and resident staff all appreciate the importance of time, and close co-operation is maintained with the contractor and his staff with a view to avoiding delays and making satisfactory progress.

'To date, the work has progressed according to schedule.'

CHAPEL



Interior



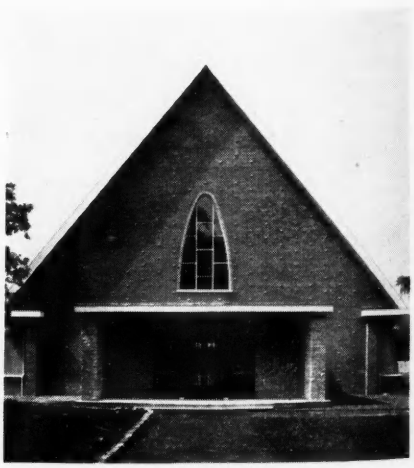
Architects :
ADAMSON,
GRAY
&
ADAMSON
in association with
G. GORDON STANHAM

Quantity Surveyors :
ERNEST PASTERFIELD
& Partners

Builders :
TRUETT & STEEL, Ltd.

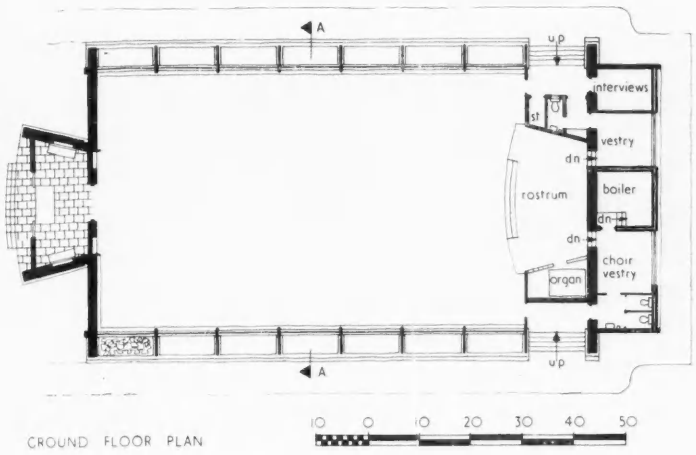
THIS chapel, designed to seat 500, has recently been completed for the Royal Alexandra and Albert School in Gatton Park, near Reigate. The structure is formed of elliptical welded tubular trusses, with pin joints top and bottom. The trusses were prefabricated and their erection on site was rapid and straightforward. The bases of the trusses are tied in below floor level with transverse steel ties, so forming a rigid triangular frame. Tubular cross bracing between two bays was provided for lateral stability, and steel angle purlins linked all the trusses together and formed the fixings for woodwool insulating slabs. The framing at the rostrum end of the chapel was similarly constructed and since this followed the same elliptical shape on elevation but tapered inwards and downwards, very accurate setting out was necessary.

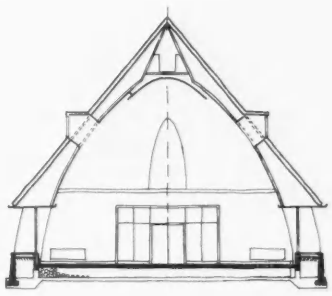
For the finishings, the trusses were, as stated, covered with woodwool slabs on the roof slopes, upon which Reynardo hand-made sand-faced pantiles were hung. The exposed portions between the side windows were wrapped with expanded metal lathing and finished with 'Mineralite' of a green colour, which was continued round inside and outside. The main curve of the ceiling was faced with insulating board in 2 ft. squares with chamfered edges, left its natural colour and fixed invisibly to the underside of the trusses with metal sections. The top part of the ceiling, which is suspended



Main entrance, south end

Gatton Park, near Reigate, Surrey

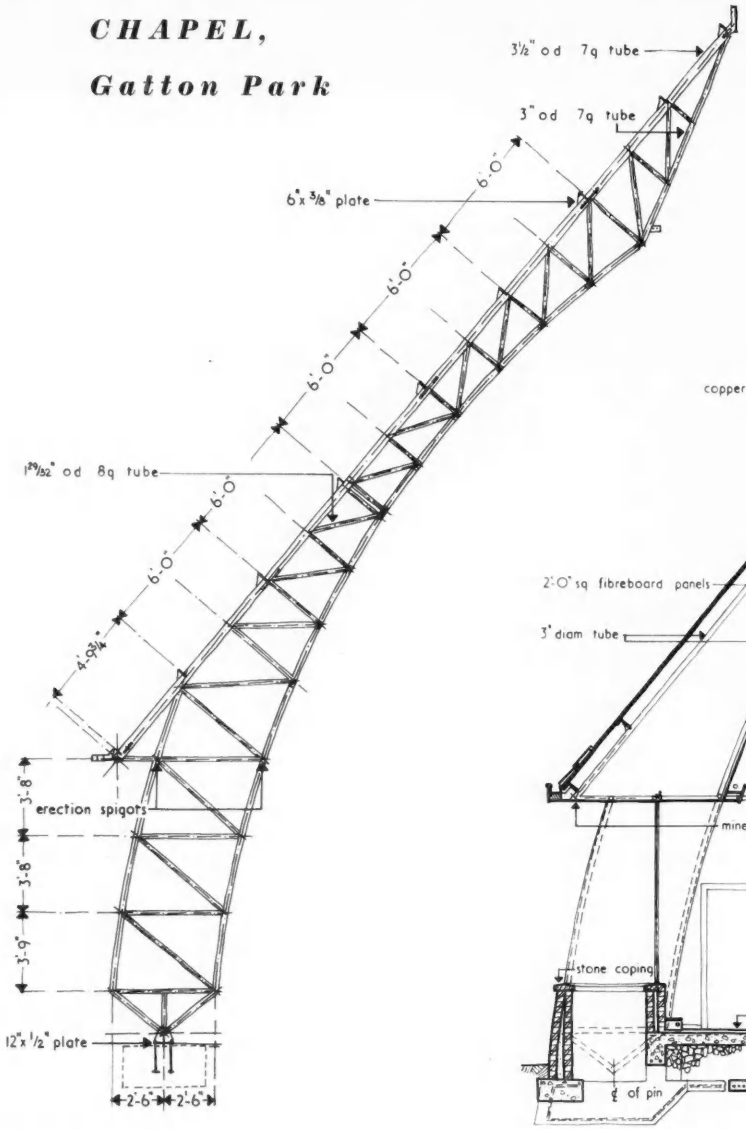




PLAN AND SECTION, Scale : 1 in. = 32 ft.

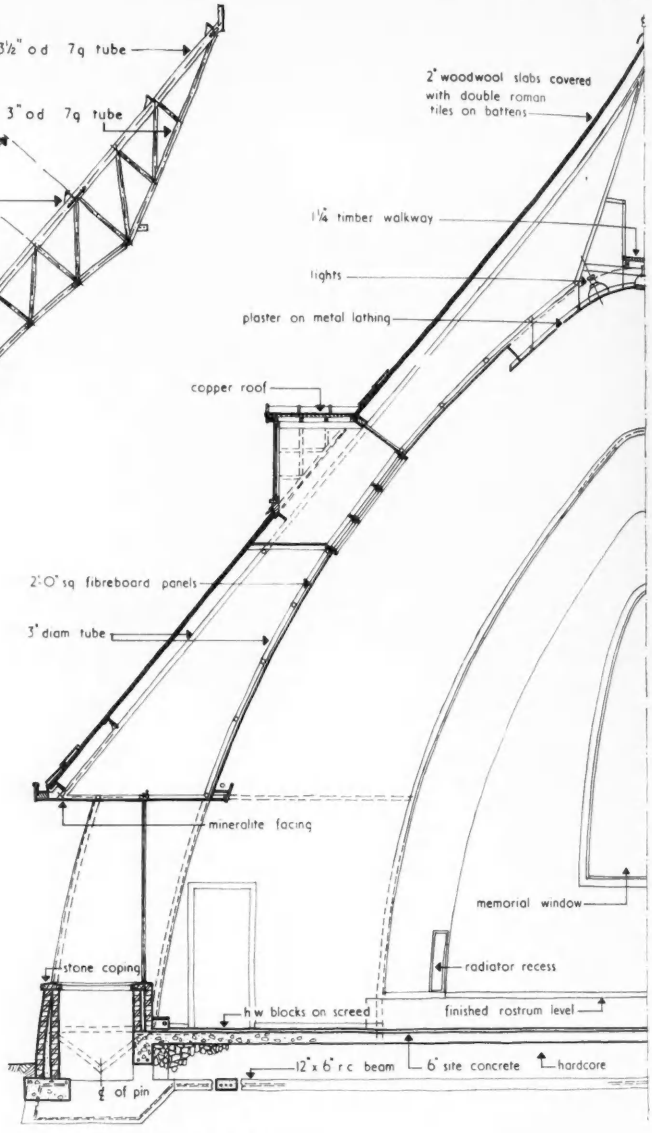
Main entrance and foyer with Hopton Wood stone floor and terrazzo tiles on the facing wall. The ceiling is deep blue

CHAPEL, Gatton Park



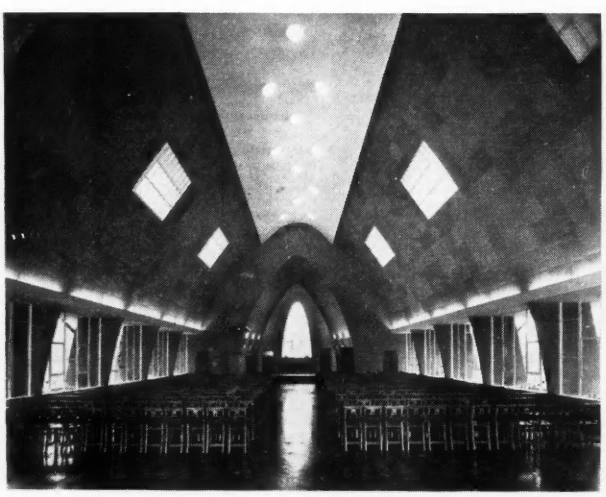
HALF SECTION OF ARCH

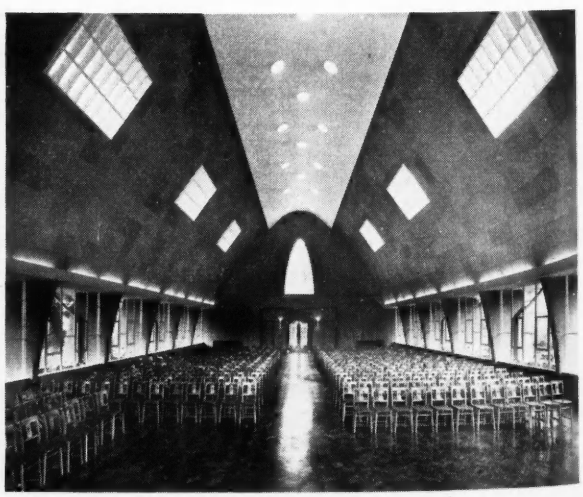
DETAILS, Scale : 1 in. = 8 ft.



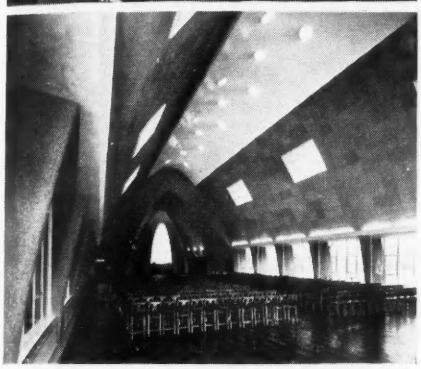
HALF SECTION THROUGH HALL

The interior, looking towards the rostrum and (right) the entrance





Exterior, from the south-west



Interior, looking north

Chapel, Gatton Park

Subcontractors & Suppliers:—

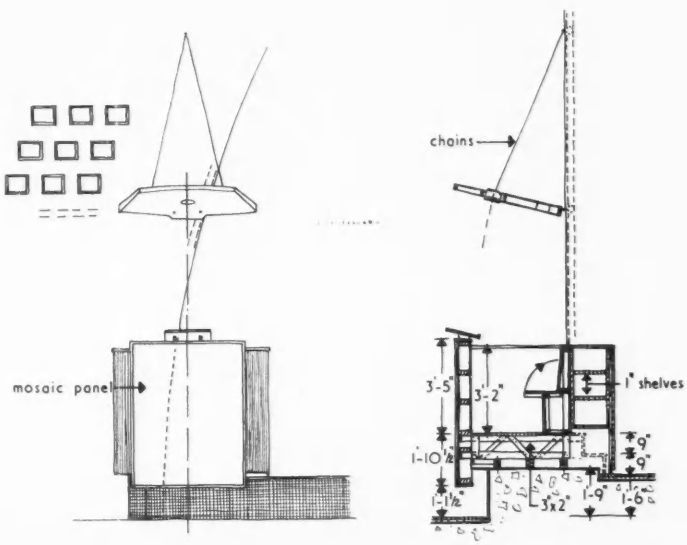
Structural framework, Scaffolding (Great Britain), Ltd.; facing bricks, Sussex and Dorking United Brick Companies, Ltd.; metal lathing, Steel Bracketing and Lathing, Ltd.; woodwool roofing slabs, Uniton, Ltd.; roof tiling and flat roofing, Roberts and Burling, Ltd.; rain water pipes, Vitreflex, Ltd.; metal windows, Brunswick Metal Casements, Ltd.; Mineralite, Kendall's Flooring, Ltd.; glazing, Wottons (Croydon), Ltd.; insulating ceiling board, Uniton, Ltd.; wood block flooring, Vigers, Ltd.; stone flooring, Kendall's Flooring, Ltd.; tile flooring, Marley Tile Co.; heating, Thomas De La Rue and Co., Ltd.; electrical installation, Phoenix Electrical Co. (London), Ltd.; electrical fittings, Troughton and Young, Merchant Adventurers, Falk Stadelmann and Co., Ltd.; ironmongery, James Gibbons, Ltd., W. N. Froy and Sons, Ltd.; mosaic, Zanelli (London), Ltd.; plastering, H. and F. Badcock, Ltd.; wall tiles, Langley London Ltd.; sanitary equipment, Rownson, Drew and Clydesdale; paint, Hadfields, Ltd.; organ, J. W. Walker and Sons, Ltd.

below the general level and stops short each end, is formed in plaster finished white. In this portion are recessed the main lighting fittings, which give the general illumination.

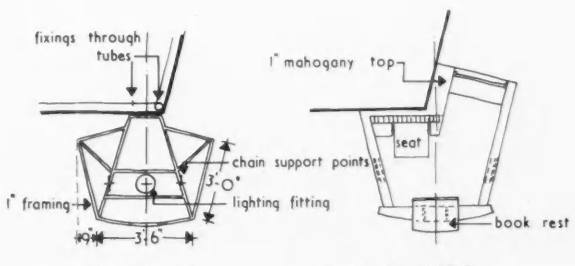
Between the top of the windows and the curved ceiling is a lighting trough to hold fluorescent tube fittings, faced with white 'Mineralite,' and this also continues to the outside, forming the soffit to the eaves. Laylights in the ceiling are of softwood painted white and glazed with 'Spotlyte' glass. All the metal windows are also painted white.

The facing brickwork is of Lunsford brown facings with projecting headers on the front elevation in a pattern echoing the pitch of the gable, and patterns on the rear and side porch walls of lighter-coloured selected bricks. Internally, all brickwork is plastered and finished in emulsion paint of a grey-green colour, to match the 'Mineralite.' This colour is lightened and softened in the recess at the rostrum end.

The floor is Sapele wood block, and the steps up to the rostrum are also of Sapele. The vestry and lavatory floors are thermoplastic tile. All joinery is mahogany polished to a natural colour. The pulpit is timber framed, with polished mahogany facing, and the front panel is in grey-green mosaic, relieved with red and yellow. Heating is by oil-fired boiler to radiators placed continuously along the side walls and covered by grilles. The pipe organ is installed behind an openwork mahogany screen in a recess off the rostrum.



FRONT ELEVATION SECTION



PLAN OF CANOPY PLAN OF PULPIT

DETAILS OF PULPIT AND CANOPY OVER

CORRESPONDENCE

Modern Architecture

To the Editor of *The Builder*

SIR,—Following the recent series of letters on the merits or otherwise of modern architecture, an argument which has surely long been won in practice by the work of the best of modern architects, the point may perhaps be made that the whole merit of the modern movement has been and is the attempt to give full consideration to design in all its aspects.

Good design, whatever the final product, of course, needs to be aware of composition, proportion, etc., as well as efficiency but above all of simplicity, which is the outcome of completeness and unity — a result extremely difficult wholly to achieve.

Three factors are essential to good design, whether included consciously or unconsciously, and the final work will contain a proportional interplay of them, but all need to be present, namely: —

1. Pleasing appearance, depending on simplicity and proportion.
2. Economy in the form of structure, having that which is necessary for construction and decoration; no more, no less.
3. Functional efficiency for the intended purpose, in architecture this being a plan which 'works.'

Surely the best of modern architecture lives up to these requirements.

The merit of the work, if it is one that can be judged as a work of art or great architecture, will depend on the balance of these factors seen in the circumstances in which the work is done.

PETER MOTH.

20, Coniston-road,
Coulsdon, Surrey.

Overseas Appointments

To the Editor of *The Builder*

SIR,—I should like to offer my congratulations on the institution of your 'Overseas Appointments' advertisements classification. This development should be of assistance not only to your readers but should tend to promote Britain's civil engineering and 'building export' trade.

I should like to suggest a further service which you might like to consider providing. There is now overseas a large number of building technicians who proceed from one overseas contract to another. By the time they are half way through one contract they are already considering 'Where next?' Where I am at present, *The Builder* takes some weeks to arrive by surface mail, by which time most advertised jobs are filled.

I realise that to send the whole publication by air mail would be prohibitive in cost, but I consider that there would be sufficient demand for early news of 'Overseas Appointments' open to warrant providing such a service by air mail on a yearly subscription basis. I should be interested to hear what you think of this suggestion.

H. HOWELL THOMAS.

c/o Raglan, Squire and Partners,
PO Box 1256, Rangoon, Burma.

∴ *We gladly accept our correspondent's useful suggestion and will air mail weekly full details of the posts advertised under 'Overseas Appointments.' The cost of this service will be 5s. for four weeks; longer periods should be calculated at the rate of* 1s. 3d. *for each additional week required.*

A similar service is offered to those who are interested in Appointments Open in the UK. The cost here is 10s. *for four weeks* (2s. 6d. *for each additional week*), *and subscribers who would like the 'Overseas Appointments' included can have this done without extra charge.*

It should be made clear that the cost of this service to the subscriber is no more than the cost of the postage involved.—EDITOR.

'Next year we look just like English countryside.'

Incentives in the Building Industry

To the Editor of *The Builder*

SIR, — Presumably, *The Builder* does not give seven valuable pages as preamble to a forthcoming study without underlining the importance of the subject matter. Some fifteen years' study of incentives in the industry convinces me of your wisdom.

I would like, briefly, to highlight some immediately crucial items of the Report, which I enumerate as follows: — —

(1) Flexibility.
(2) Human relations.
(3) Surveyor status.

Because we are engaged in building and not yet quite on the 'production line,' flexibility is manifestly essential. Generally, the employer and operative are more amenable to change than the 'middle-men,' i.e., estimators, site surveyors and foremen. This reluctance to change appears, perhaps naturally, with the older person. Like learning to drive a car the difficulty of assimilation is increased proportionately with every decade notched by the individual. In a hard-headed industry the questions and answers in the problems of human relations are not easily appreciated. Mutual trust has still yet to supplant the Working Rule Agreement, but the bonus surveyor appears perhaps historically as the first real liaison between management and men.

The bonus surveyor must like his job or he would not relish the position of the Aunt Sally, whereas the estimators do at least enjoy condolence for 'losing' contracts and congratulations when money is made, albeit, often fortuitiously. The BRB paper recognises the responsibility and value of bonus surveyors as a growing asset in progressive firms.

One feels that Messrs. Entwistle and Reiners look to pre-planning as the panacea for production on the site. First, they must tell that, not to the Marines, but to the client, architect and sub-contractor. Before concluding, I would like to comment on your correspondent R. A. W. Hoare's contribution (*The Builder*, September 6).

He offers what he frankly describes as a theoretical solution to the incentive problem. But he makes the cardinal error of mistaking a post-job bonus for an incentive. An incentive is allied to current output and its value is therein.

It will be appreciated that the full study paper is awaited with interest, but it is to be hoped that, progressive as some of us believe we are, the field will not be monopolised by the bright boys with the stop-watches and the jargon of 'level of willingness' and 'level of expectation.' If there is no other alternative perhaps the trade had better, like the farmers, continue to live on its losses.

T. G. H. WELLS [AFS].

1, Trenance-gardens,
Ilford, Essex.

To the Editor of *The Builder*

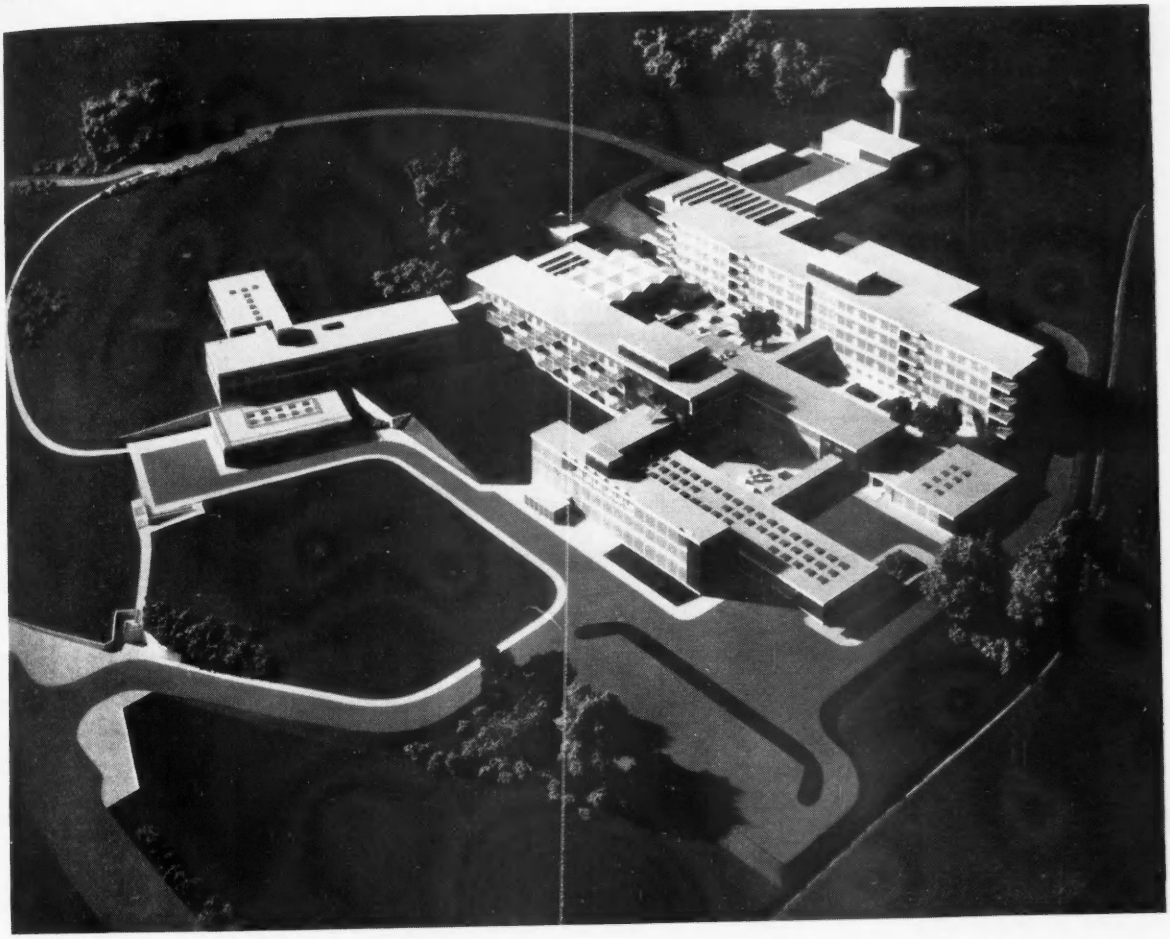
SIR,—I have read the letter from Mr. R. A. W. Hoare, ARICS, in *The Builder* of September 6, on incentives, with interest. By incentives, I suppose piecework is meant. When is this dreadful practice to be stopped?

Before the last war nearly all contracts were let on the understanding that there should be no piecework done. The war came and workmen were sent by compulsion to various large contractors carrying out work of national importance. A lot of men resented this and in consequence did not give a good output of their labour. In order to induce a better output, contractors started this beastly piecework system and we all heard of the very high earnings then obtained.

When the war ended this piecework system ought to have been stopped. Instead it still prevails, and the country is being burdened with a legacy of shoddy work which will cost a great deal in the future.

H. GREENWOOD, Director.
Greenwoods (Mansfield), Ltd.

Wood-street, Mansfield, Notts.



A view of a model, from the south-east

PROJECT:

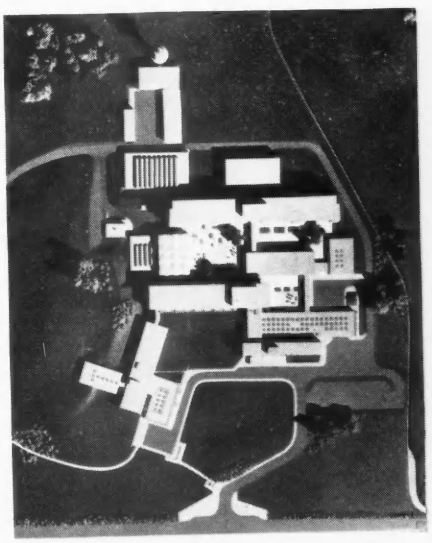
NEW ULSTER HOSPITAL, Belfast

Architect: FREDERICK GIBBERD, CBE, FRIBA, MTPI

Consulting Structural Engineer: FELIX SAMUELY, BSc, AMICE, MIStructE

Consulting Engineer for Services: J. R. W. MURLAND, BSc, MConsE, MICE, MIMechE, MIEE

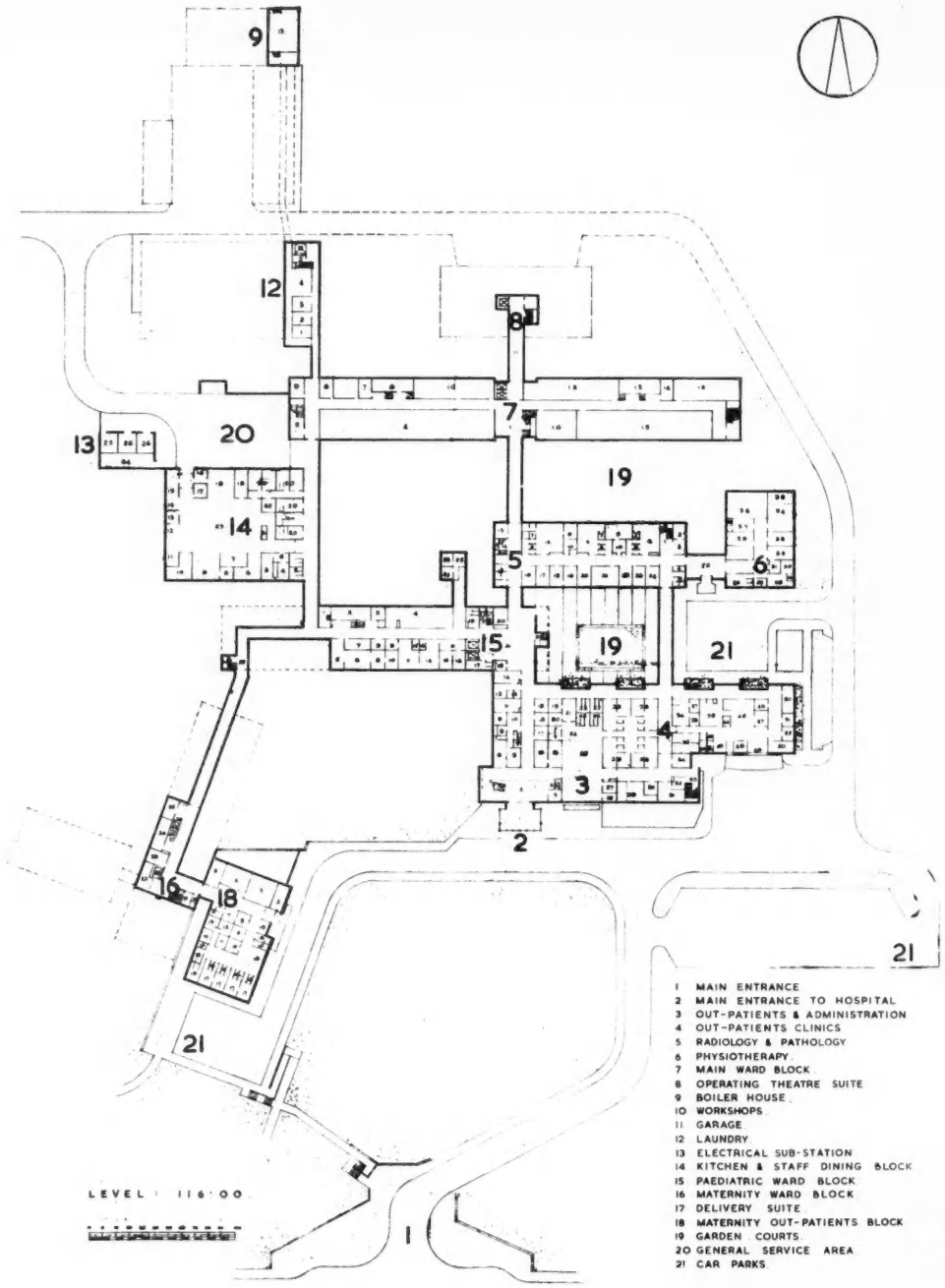
Quantity Surveyors: W. H. STEPHENS & Sons



Plan view

THE new 500-bed Ulster Hospital, designed for the Northern Ireland Hospital Authority, is to be built on a site at Dundonald, on the outskirts of Belfast. It will provide teaching and training facilities. The hospital is planned as four distinct buildings: for children, adults, maternity cases and out-patients. With these four buildings are associated other blocks containing the common services such as radiology, physiotherapy and kitchens.

The buildings which form the main hospital block are grouped in a cellular pattern around three garden courts. Although the blocks form quadrangles, the end of each building is



LAYOUT PLAN, Scale: 1 in. = 126 ft.

unobstructed so that it can expand if the need arises.

The maternity building has a quite independent entrance and outpatients' department.

A central spine provides circulation on two levels, lower ground and ground floor; it connects with the dispensary, the children's or paediatric block, pathology, radiology and main ward block on the north. Staff use the lower level and the public use the upper, where there is a spacious waiting gallery.

The administrative department is above the main entrance hall and has direct communication by its own lift and staircase ; all ambulances enter a casualty wing adjacent to the outpatients' department.

A standard ward unit has been designed for all three ward blocks, based on a grid of 10 ft. 6 in. centres, with a depth of 24 ft. Two of these bays form six-bed wards for the general and paediatric blocks and will take four beds and four cots in the maternity block.

In the general block the six-bed wards are on the south side, and the ancillaries are on the north. Each floor provides 40 beds, sub-divided by their services

New Ulster Hospital, Belfast

and equipped with two nurses' stations to form 20-bed units. The paediatric block is on a similar plan, except that each ward of six cots has its own fully glazed balcony, staggered in plan to avoid overshadowing.

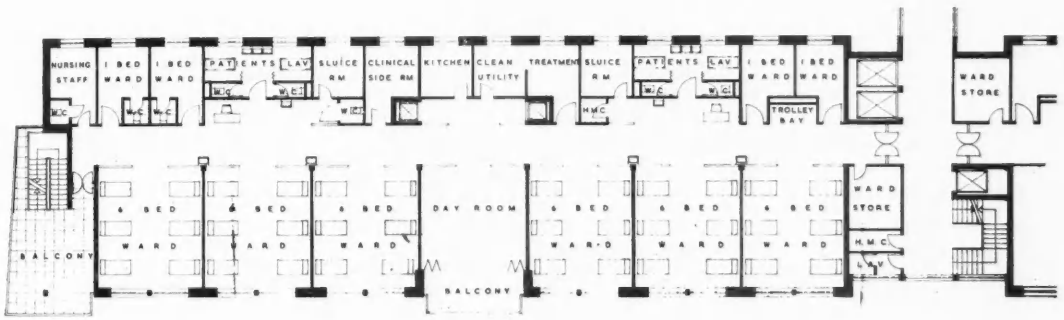
An operating wing is on the north side of the general ward block; the paediatric block has its own operating suite on the fourth floor; and the maternity block has a wing designed as the delivery suite. The greater part of the outpatients' accommodation is placed in a large single-storey rectangular block, top lighted.

The 'staff home' consists of eight two-storey blocks for senior nursing staff, junior nursing staff and domestics. Each block contains a sitting-room with a terrace. There is a separate house for the resident engineer and a bungalow for the matron. A communal building with lecture rooms and assembly hall forms the centre of this group, near the west boundary of the site.

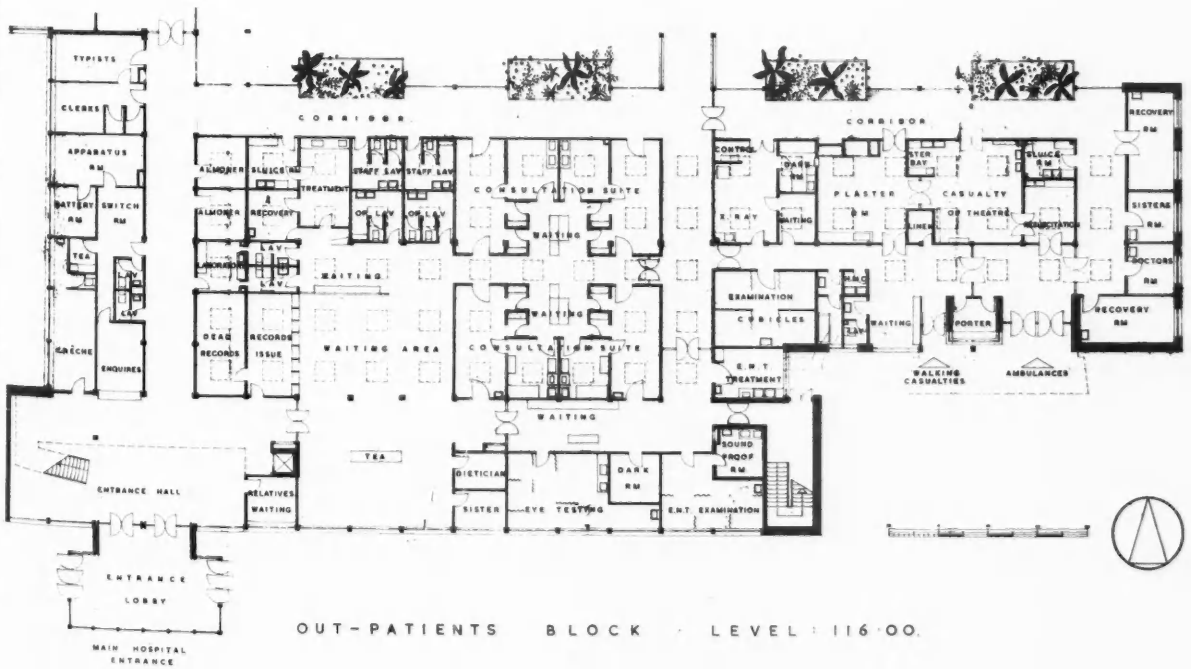
The buildings are of steel frame construction with a floor to floor height of 12 ft. 5 in. Suspended ceilings create a general ceiling height of 10 ft.

External finishes are precast exposed aggregate cladding slabs offset by an amount of brickwork acting as visual stops to the elevations.

A system of daylighting has been designed for the wards which consists of continuous high level glazing to give a general, even standard of light over the whole area. In addition, individual windows at vision level are provided in each bay.



TYPICAL WARD UNIT, MAIN WARD BLOCK, Scale: 1 in. = 32 ft.



OUT-PATIENTS BLOCK · LEVEL 116·00

Exhibition of French Contemporary Art

at the Pavillon de Marsan, Paris

THE first triennial exhibition of French contemporary art was held at the Pavillon de Marsan, Rue de Rivoli, Paris 1er. It was organised by the Union Centrale des Arts Decoratifs and the show included a three-dimensional model of a housing development, called 'Dame Blanche,' in the Paris suburbs ; the office of an executive ; the apartment of a young couple ; a Polar base and various mass-produced articles of aluminium.

Above .
The children's room from the apartment of a young couple.
Designer : Gautier-Delaye

Left :
The parents' bedroom.
Designer : Gautier-Delaye

Below :
Dining-room of the apartment for a young couple.
Designer : R. J. Caillette

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BARBICAN REDEVELOPMENT

Plan for Residential Flats in City

A 'GENUINE residential neighbourhood' in the Barbican area of the City of London is recommended in the report, published on Monday last of the Special Committee of the Corporation, submitted to the Court of Common Council yesterday (September 19). It would include the provision of suitable sites for the City of London School for Girls and the Guildhall School of Music and Drama, and would cost about £14 million.

The report, 'Redevelopment of the Barbican Area,' deals with 25 acres south of Barbican which is already virtually cleared by war damage, and more than 10 acres north of Barbican, which includes standing and occupied buildings, some of them built since the war. The proposed residential area is to the south: the committee recommend that the area to the north which is in the comprehensive development area, should remain the responsibility of the Improvements and Town Planning Committee.

Cost Estimated at £17m.

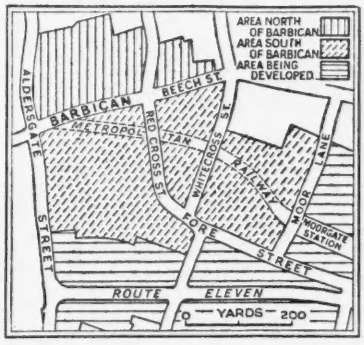
Estimates given by the architects, Messrs. Chamberlin, Powell and Bon, put the total capital cost of the Barbican scheme at about £17 million, of which £6 million would go in acquiring and clearing the land, while for developing the area to the south the respective figures are £14 million and £4 million. The committee point out that decisions to acquire the land south of Barbican have already been taken, so that none of the £4 million arises for consideration.

The housing proposed is for accommodation 'for the middle and higher income groups.' A report by the architects in October last year listed the estimated income for a total of 2,243 one-, two-, three and four-roomed flats at £630,420, as follows: 335 one-room flats at £180 a year, £60,300; 577 two-room flats at £230 a year, £132,710; 948 three-room flats at £320 a year, £303,360; 383 four-room flats at £350 a year, £134,050. These figures do not take into account four acres released for housing by the decision not to move the boys' school, the City of London School, from its present site on the Embankment at Blackfriars.

The committee say that they are accepting, as a matter of policy, the objectives of the Minister of Housing and Local Government (then Mr. Duncan Sandys) given in a letter to the Lord Mayor in August last year. The letter said that there should be created in the Barbican area 'a genuine residential neighbourhood incorporating schools, shops, open spaces and other amenities, even if this means forgoing a more remunerative return on the land.'

Position of Schools

The committee's report says that the City of London School for Girls and the Guildhall School of Music and Drama are carried on in premises most unsuitable, judged by modern standards, and the Corporation would have to spend large sums on these institutions. The City of London School, where there are more than 800 boys, recently had a new building erected at a cost of £57,875 while a £40,276 scheme for improved science accommodation has now been authorised. The City of London School for Girls, now occupying an island site with the Guildhall School of Music and Drama, accommodates 350 girls.



In 1955 the City of London schools committee told the coal and corn and finance committee that £72,000 works should be carried out in the next seven years to meet criticisms by the Ministry of Education. The schools committee also stated that £5,352 would be required within seven years for improvement of the central heating and hot water installation. Improvement schemes to cost £10,899 have been authorised.

The Guildhall School of Music and Drama dates from 1886 and cost £26,000. In 1898 it was extended at a cost of £25,000. The theatre is not licensed for public performances, as means of escape in case of fire do not comply with the Lord Chamberlain's regulations. The concert hall is small. In July last year the music committee welcomed the opportunity afforded by the inception of the Barbican scheme to envisage a school building on that site.

The Special Committee's report proposes that implementation of the recommendations in regard to the area south of Barbican be referred to a new committee, to be called the Barbican Committee.

ARCHITECTS EMPLOYED IN LOCAL GOVERNMENT

Open Letter on Negotiating Machinery

MR. RICHARD SHEPPARD, FRIBA, chairman of the RIBA's Ad Hoc Committee on the Representation of Salaried Architects and Structure of the Profession, has addressed the following open letter to members about negotiating machinery in local government:

COPY

Those familiar with the aims of the Ad Hoc Committee will realise that we are constantly debating whether, if a pressure group representative of the entire profession could be formed, it would find itself uniquely well placed to ensure that architects are properly employed and rewarded by the society they serve. None of us on the Committee has ruled such a pressure group out of court, but candidly nothing in our studies so far suggests that it is the lack of one that is the root cause of the problems we are required to examine. The development of an aggressive British Architectural Association, wielding a big stick in the manner of the Transport and General Workers, is in our view some long way off, and it would be a pity if anyone had illusions about this.

Nevertheless, in the field of negotiating machinery (which it is as well to remember need not be our only weapon) there is everything to be said for improving what already exists. Local government machinery is a case in point. Those directly concerned will know that this negotiating machinery is being overhauled, and now is the time to ensure that, in whatever emerges, the major professions shall be singled out and recognised as a clearly defined class, whose interests shall not this time be submerged by the sheer weight of non-professional numbers. There is every reason to think that our colleagues in the major professions are as determined about this as we are.

They are, however, better equipped than we are in that, if we can all get our voices directly heard at the negotiating table, they have to hand the necessary societies from whom representatives could be appointed to serve, whereas we have not. Our profession has the County, City and Borough Architects' Association, but this is limited to watching the interests of Chief Officers and Deputies, and there are good reasons why it cannot be expected to expand its terms of reference to include the remainder. Who then shall speak for those below Deputy level? Many would say the RIBA, but the objections to that are the usual, and by now, familiar ones: (1) The Royal Charter precludes it (as for that matter the Law Society's prevents their 'representing' Solicitors); (2) RIBA membership includes architects in every kind of occupation, whereas any society seeking recognition as a negotiating body would need to be limited to local government officers.

Our Committee is thus led to the conclusion that we are likely to want to encourage before long the establishment of a local government architects' society to cover Assistants, but closely associated with the RIBA. Such a society might well find enough good works to do to justify its existence in any case, but appointing representatives to negotiate for Assistants would be among its more important functions.

It would, of course, be unrealistic to look for any radical change in the balance of power among all the associations concerned in local government, simply by reason of our getting the professions established on a proper footing. Everyone knows that on the Staff side, NALGO is predominant, and there are many who would not wish it otherwise. At any rate, our society would clearly need to be thought of as supplementary to and not a substitute for the overall machinery, which has after all been laboriously built up through long and sustained effort.

We shall want to look into all this more closely, for the pattern of negotiating machinery is still in the melting pot and no one yet knows precisely what can be made to emerge: but local government architects are invited to give the matter some thought and to send their observations to the Secretary for Professional Relations, RIBA, 66, Portland-place, London, W1, and to indicate whether they would become members of such a society if it were established.

[Signed] RICHARD H. SHEPPARD.

News of the Week

Park Lane Hotel Inquiry

A PUBLIC INQUIRY into the proposal to build a 35-storey hotel in Park-lane, W, will be held on November 6 at County Hall, Westminster. Mr. Brooke, Minister of Housing and Local Government, has called in the planning application made to the London County Council, as he has power to do in cases of unusual public interest, and has decided to hold the inquiry to enable interested parties to make known their views.

The proposal, which was to have been considered this week by the town planning committee of the LCC, is that in which New City Properties, Ltd., controlled by Mr. Charles Clore and Hilton Hotels, International, Inc., of the United States, are concerned.

Oxford's Science Area

AN available site on the east side of Parks-road has been found for a new department of metallurgy, Oxford. This is part of the plan for developing the Keble-road triangle as a science area.

Plans for it have been approved by the Planning Committee of Oxford City Council. In doing so the city planners have asked the University planners to reconsider one aspect of the building, suggesting that the height of a structure on the roof of the building, which is to house the lift mechanism, could be reduced.

Discussion Meeting

A JOINT annual meeting of second-year diploma students in town planning from the Polytechnic, Regent-street, and the Housing Centre, is to be held at 13, Suffolk-street, SW1, on September 26. The project for discussion is an exploration of the feasibility of contributing towards the de-congestion of the Greenwich-Blackheath area. Chairman for the meeting will be Mr. J. S. Walkden, FRIBA, MTPI, head of the School of Architecture, The Polytechnic.

Sir Patrick Abercrombie's Estate

SIR LESLIE PATRICK ABERCROMBIE, Professor Emeritus of Town Planning in University of London (gross £22,506) (duty paid £664), left £21,928.

Bristol City Architect

MR. A. H. CLARKE, ARIBA, Deputy City Architect, Bristol, has been promoted City Architect in succession to Mr. J. Nelson Meredith, FRIBA, who retires. on October 7.

COMING EVENTS

MONDAY, SEPTEMBER 23.

THE TOTTENHAM COURT ROAD ASSOCIATION FURNISHING DIVISION.—Furnishing Festival, Horse Shoe Hotel, Tottenham Court-rd., W1. Open daily 9 a.m.-5.30 p.m. Thurs. 9 a.m.-7 p.m. Sat. 9 a.m.-1 p.m. Continuing until October 5.

INSTITUTE OF QUANTITY SURVEYORS (LONDON BRANCH).—Film on construction of Calder Hall Atomic Power Station. By S. E. Varcoe, AMICE, 98, Gloucester-pl., W1. 6.30 p.m.

TUESDAY, SEPTEMBER 24.

COUNCIL OF INDUSTRIAL DESIGN.—'Solid Comfort.' A special display of solid fuel appliances for the home. The Design Centre, 28, Haymarket, SW1. Continuing until October 26.

THURSDAY, SEPTEMBER 26.

THIRD CONFERENCE OF ARCHITECTS IN CHARGE OF CATHEDRALS. — Opening at York Institute of Architectural Study, Micklegate, York. 4.15 p.m. Continuing until September 29.

INSTITUTE OF BUILDERS.—Licentiate Discussion Club (Birmingham Centre). 'Modern Hoisting Methods for Building Construction.' By C. B. Maxwell and T. Sutcliffe. Grand Hotel, Birmingham. 7 p.m.

HOUSING CENTRE TRUST.—Joint annual discussion meeting. 13, Suffolk-st., SW1. 6 p.m.

FRIDAY, SEPTEMBER 27.

THE COUNCIL OF INDUSTRIAL DESIGN SCOTTISH COMMITTEE.—Exhibition 'Colour About the House.' Opening by Rt. Hon. J. S. Maclay, CMG, MP, Secretary of State for Scotland. 46 West George-st., Glasgow. Open to the public from Sept. 28-Nov. 23. Weekdays 10-5 p.m.

Appointments Open

BRISTOL CITY COUNCIL invite applications by October 5 for the post of Deputy City Architect. Salary £1,737 rising to £1,947 per annum.

CAERNARVONSHIRE CC invite applications by October 19 for the post of County Architect. Salary £1,845 to £2,115. Details advertised in this issue.

Professional Announcements

SCHERRER & HICKS, FF.RIBA, of 27, Harcourt House, 19, Cavendish-square, W1, have opened an office at 27, King-street, Manchester. (Tel.: Deansgate 7303) under the charge of MR. B. J. MOXHAM, ARIBA. Trade catalogues would be welcomed.

The new office address of MR. FRANK ANDREWS, LRIBA, is Manor Hatch (next to Manor House), Ringwood. Telephone number remains unchanged (Ringwood 588).

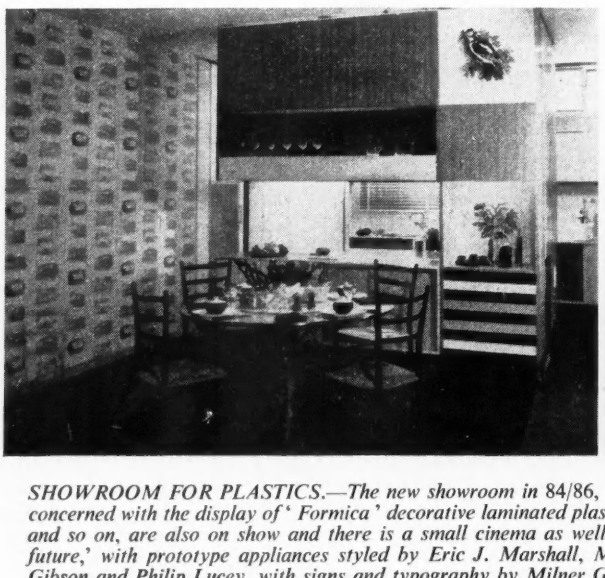
MESSRS. REES AND HOLT, chartered architects and surveyors, of 64, Rodney-street, Liverpool 1, have opened a branch office in Manchester at F.21, Victoria Buildings, 32, Deansgate, Manchester, 3, (Tel.: Blackfriars 3851), and would be glad to receive trade catalogues at this address.

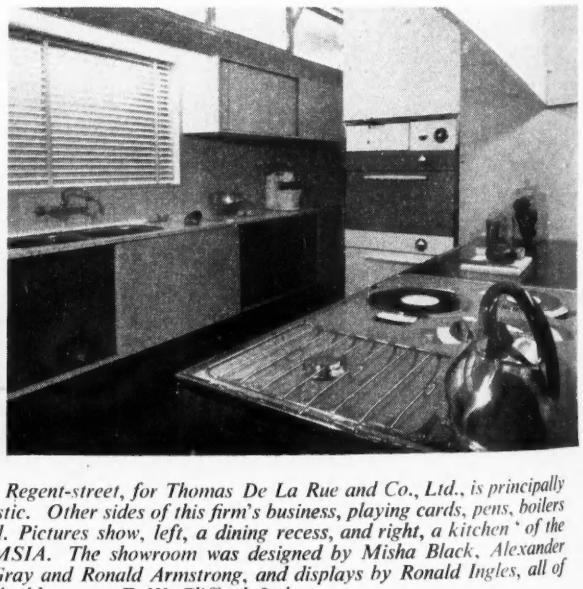
FROM 'THE BUILDER' OF 1857

Saturday, September 19, 1857

BIRD'S EYE VIEW OF THE MAP OF LONDON.—After all that might be advised of change in the structures bequeathed to us, a point of greater importance remains; and that is the river. Viewed from afar, or in proximity, this is the main feature: the flood winds its devious way in might and majesty, but in filth and squalor—slips, mud-banks, crank jetties, obscene sheds and warehouses, bound its stream.

Everywhere else a river is a source of health, wealth and beauty. In this commercial capital the tide is turned to thrift alone. The bridges lend another majesty, but the solid quay walls and open esplanades exhibit from either side the opposing structures. A quarter of a mile from side to side, would also show the distant towers and steeples. All this is lost to London.—*From an Article.*





SHOWROOM FOR PLASTICS.—The new showroom in 84/86, Regent-street, for Thomas De La Rue and Co., Ltd., is principally concerned with the display of 'Formica' decorative laminated plastic. Other sides of this firm's business, playing cards, pens, boilers and so on, are also on show and there is a small cinema as well. Pictures show, left, a dining recess, and right, a kitchen 'of the future,' with prototype appliances styled by Eric J. Marshall, MSIA. The showroom was designed by Misha Black, Alexander Gibson and Philip Lucey, with signs and typography by Milner Gray and Ronald Armstrong, and displays by Ronald Ingles, all of the Design Research Unit. The builders were F. W. Clifford, Ltd.

CAMPUS SCHOOLS PROPOSAL

Durham Scheme for Grouping Five Schools on One Site

DURHAM County Council's Education Committee has drawn up a scheme for a Campus School at Billingham under which four Secondary Modern Schools and one Grammar-Technical School would be built on one site. The scheme, which is still in the report stage, has yet to be approved by the Durham County Council and by the Ministry of Education. Following are extracts from the report on the scheme prepared by Mr. G. H. Metcalfe, MA, the County's Director of Education:

Report

Sites for the new secondary schools have been ear-marked in the Billingham area with a view to the schools being built together. I therefore recommend that all the schools be built on the large northerly site and that the site to the south be used as a detached playing field. This means that we are to consider the building of four 3-form entry Secondary Modern Schools and one 5-form entry Grammar-Technical School on one site.

The first secondary modern school was approved before the 'campus' became a practical proposition and it was too late to alter its accommodation. As a result this first 3-form entry Secondary Modern School is self-contained. It should be possible, however, to arrange and design the remaining schools in order to incorporate the following aims:—

(1) *While the five schools* will have one body of governors, each school will have its separate head teacher and its own corporate life. The head teachers will meet regularly in committee to arrange facilities for transfers at different ages from one type of school to another and to develop opportunities for the united activities of the campus.

(2) *All pupils* will share the appropriate facilities for physical education, recreation, swimming, and practical work. It is envisaged that all may wear the same uniform with different badges to denote the different schools and that the children of one school may be nominated for membership of out-of-school societies which may be run by another school.

(3) *The campus* will have definite educational and social implications not the least of which is to break down the barriers which so often separate schools of different types. Ease of transfer and opportunity for all children to meet one another will be among the most important features if the campus is to be successful. To facilitate this, it is proposed to build a Domestic Science Block and a Practical Block incorporating woodwork, metal work, engineering and some general craft. This feature is a departure from tradition and requires some amplification:

The two blocks will be extended, as each new school is built, by the addition of those practical rooms which normally would have been included in each school. The rooms within each block will be allocated to the school for which they were built and each teacher will be a member of the staff of the school to which the room is allocated. Care must be taken to assure that in no sense are these teachers isolated from their colleagues, but their attendance at school assemblies and staff meetings and their participation in out-of-school activities should counteract any such tendency. The practical blocks will give the staff ample opportunity for exchange of views and will enable the senior master or mistress to give valuable counsel to new entrants to the profession. Their chief value, however, will lie in the psychological effect of all children from different schools proceeding to the same block for instruction and will be a constant physical reminder of the reason for the schools being grouped together.

(4) *Within reasonable distance* of the campus, the main hall of the Billingham College of Further Education will provide facilities for united functions and meetings.

(5) *Physical Education: Shared facilities.*—Assuming that each Secondary Modern School is organised as a 4-stream school for a four years' course we shall have 64 classes. The Grammar-Technical School will have 25 classes to the end of the fifth year and an estimated five sixth forms. The campus will have a total of 94 classes to be accommodated.

The boys from two classes will be taken as one group and the girls from two classes as another group. On the basis that each class has three periods of physical education per week, plus one games period, three gymnasia and one swimming bath will provide the necessary facilities.

(6) *Special Courses.*—It is expected that each Secondary Modern School will develop an individuality and in some cases will have facilities providing for special courses to which children may be transferred. The catchment area not only serves the highly industrialised township of Billingham, but includes the rural areas of Grindon, Wynward Park, Elwick, Greatham and Wolviston. Consequently, one Modern School will provide facilities for rural studies. Other schools may develop a bias towards commercial or technical studies.

(7) *Assembly Halls.* — Assuming that the large hall in the Billingham section of Stockton Technical College is available for those occasions when large numbers of pupils and parents may be assembled, it is proposed to reduce the size of each assembly hall below what might have been considered normal in the Secondary Modern Schools. Because of the greater number of pupils in the Grammar Technical School (900 as against 480), that school will retain its hall of 3,000 sq. ft.

(8) *Ancillary Rooms.*—In addition to the normal staff rooms in each school, a staff room should be provided in each detached block.

(9) *Playing Pitches.*—These should be allocated to each school, but the allocation should be changed annually so that each school has in turn the advantage of the nearest pitches. The number of children attending the County and CE Primary and Secondary Modern Schools in this area at March 31, 1957, was 4,363. Allowing for children (11-15 years) in attendance at Grammar Schools, the year group for the area is 466.

The proposed provision, which will allow for new housing, gives 165 additional Grammar Technical places, and 524 additional Secondary Modern places using each 3-form entry Secondary Modern School as a 4-form entry school for 480 children attending for four years.

Phasing

The first school is nearing completion and should be opened early in 1958. It is a self-contained school for 480 children attending a four-year course. In September, 1957, 438 children resident in Billingham North but in attendance at Billingham South Modern School will be eligible for admission to this school. I recommend that the small all-age schools of Grindon CE and Wynward CE be re-organised when the school is open and the children of senior school age be transferred to the Billingham North Modern

				Total
Phase 1	480 pupils	Secondary Modern	One 3-FE Secondary Modern	One 3-FE Secondary Modern 480
Phase 2	960† ,,	Secondary Modern and 300 Grammar Technical	One 5-FE Secondary Modern	One 3-FE Secondary Modern; one 5-FE Grammar Technical 1,380*
Phase 3	1,260‡ ,,	Secondary Modern and 450 Grammar Technical	One 3-FE Secondary Modern	Two 3-FE Secondary Modern; one 5-FE Grammar Technical 1,860*
Phase 4	1,540§ ,,	Secondary Modern and 600 Grammar Technical	One 3-FE Secondary Modern	Three 3-FE Secondary Modern; one Grammar Technical 2,340*
Phase 5	1,920 ,,	Secondary Modern and 750 Grammar Technical	One 3-FE Secondary Modern	Four 3-FE Secondary Modern; one Grammar Technical 2,820*

* Accommodation includes 150 for future 6th Form.

†480 Secondary Modern Pupils accommodated in Grammar Technical School.

‡300 Secondary Modern Pupils accommodated in Grammar Technical School.

§100 Secondary Modern Pupils accommodated in Grammar Technical School.

Teaching Area		
The total minimum teaching area, according to Building Regulations	=	122,000
The total area in the proposed campus	=	117,510
The deficiency is accounted for by the saving made on gymnasia in order to provide the swimming bath and the reduction in the size of school assembly halls.	Deficient	4,490

School. They would provide an estimated total of 30, the combined year group being 8.9.

The second phase will be the provision of the 5-form entry Grammar-Technical School which is on the 1958-59 building programme. It is hoped to arrange for this school to open with its first and second-year pupils in attendance and it is proposed to fill the spare accommodation with secondary modern pupils. The children to be admitted as secondary modern pupils will depend on the rate of housing development in the Billingham area but it should be possible at this stage to re-organise Billingham CE and Greatham CE Schools which have a combined year group of 44.

The remaining phases will see the building of the remaining modern schools which will enable the Grammar-Technical School to take over its complete accommodation and will also allow the re-organisation of the rest of the area and cater for new housing.

TOWN PLANNING DECISIONS

Erection of Screen in Garden of House

THE Minister of Housing and Local Government has allowed an appeal against the refusal of Chertsey UDC to permit the erection of a screen in the garden of a house at Woburn Hill, Addlestone, Surrey, being one of two large adjoining houses each having about an acre of land.

The appellant's neighbour apparently intended to use as a dwelling-house a former coach-house which stands on the boundary between the two properties, and a dormer window had been constructed on the side facing the appellant's property. The proposed screen was intended to block the view from this window and any others that it might be proposed to construct in the same wall of the converted coach-house. It was to be 16 ft. 6 in. high and constructed of steel joists, backed with painted iron sheets and faced with wooden trellis.

In support of his appeal the appellant contended that the screen was necessary to prevent the owner of the converted coach-house from acquiring rights of light over the house, and to preserve the privacy of his (the appellant's) garden. Although his house had been converted into three flats, the occupants had a right to privacy against third parties. The room with the dormer window already had a skylight. The screen, said the appellant, could not be erected more than 1 ft. 2 in. from the wall of the coach-house without blocking the entrance to his garage. It would be invisible from the road and other neighbouring properties and the trellis would carry creepers and other plants.

It was argued on behalf of the Council that a screen like that proposed ought not to be erected in a residential neighbourhood, and particularly not so close to the window of an adjoining house. The conversion of the appellant's house into flats had greatly reduced the former privacy of the garden. The owner of the converted coach-house objected to the screen on similar grounds.

The Minister states, in the course of his decision, that he would not feel justified in preventing the appellant from preserving the privacy of his garden by screening the view over it from the new dormer window of the former coach-house. The most important planning consideration, in his opinion, was that this should not entail serious injury to the amenities of the general surroundings, and he was satisfied that there would be none; the appellant's garden was spacious and well-wooded, and the Minister did not think the screen would be very noticeable except at close quarters, especially if climbing plants were trained up it. He had accordingly decided to allow the appeal.

Objections to Compulsory Acquisition, Battersea; Landlord Charity Successful

OBJECTIONS to the intention of Battersea Borough Council compulsorily to acquire the freehold of No. 19, Tregarvon-road, Clapham, for the provision of housing accommodation under part V of the Housing Act, 1936, were heard on July 23 by the Inspector of the Ministry of Housing and Local Government, Mr. A. Archer-Betham, FRIBA. As a result, the Minister has decided not to confirm the order as it does not appear to him that the Council have made a sufficient case for the acquisition of the property by compulsory purchase.

The facts were as follows: The property was one of an estate of 141 terrace houses in Tregarvon and adjacent roads let by the Mitchell City of London Charity on individual ground leases at varying rents for a term of 99 years expiring at Christmas 1995. No. 19, Tregarvon-road, was let at a rent of £7 12s. 6d. a year and had been requisitioned from the lessee by the Battersea Borough Council; in August 1956 the Council purchased the leasehold interest in the property in accordance with powers vested in them by the Requisitioned Houses and Housing (Amendment) Act, 1955. They now sought to acquire the freehold interest also, on the grounds that it was not their policy to hold leasehold interests.

For the Trustees of the Charity, Mr. P. W. T. Warren, solicitor, presented at the hearing the objections of the Trustees to the Compulsory Purchase Order. He maintained that the premises were not required by the Council for the purpose of providing housing in accordance with Part V of the Housing Act, 1936, as the Council's subtenants were already in occupation; alternatively, that the premises would not be required by the Council for housing purposes within the next 10 years. The Trustees' Surveyor, Mr. G. W. Mathews, FRICS, said in evidence that in his view it would be prejudical to the eventual redevelopment of the estate if this property, situated in the centre of a terrace, were to pass into other hands. Mr. A. E. L. Cox, Clerk to the Trustees, also gave evidence.

As stated, the Minister has decided not to confirm the Order.

Minister Allows West Molesey Appeal

THE refusal of the planning authority to allow Mr. W. Bartram to build two dwellings on the site of No. 49, Weston-avenue, West Molesey, has been overruled by the Minister of Housing and Local Government, on appeal. Permission had been refused on the ground that the proposed density would be excessive in comparison with that of the properties adjoining the site.

Weston-avenue is developed on both sides with small dwellings, and the appeal site is occupied at present by a temporary bungalow; it has a frontage of about 51 ft. and a depth of 226 ft. and all services are available.

The Minister states that having regard to the size of the other properties in the street he does not think that a pair of semi-detached dwellings on the plot of land in question would be out of keeping in this locality. He has accordingly decided to allow the appeal and to grant planning permission for the erection of two semi-detached dwellings at No. 49, Weston-avenue, subject to the condition that the detailed siting, design and elevations shall be as may be agreed with the local planning authority.

Modification of Coulsdon Scheme Suggested by Minister

A SUGGESTION by the Minister of Housing that the plans put forward by Messrs. L. G. and J. A. West for the building of three detached houses and ten pairs of semi-detached houses and the construction of an estate road on land at Caterham-drive, Old Coulsdon, should be modified has been made in rejecting an appeal against Coulsdon and Purley Council.

The Minister suggests that with 21 houses, instead of the proposed 23, and a shorter road, the land could be better developed and would provide for the preservation of 'two fine trees' near the middle of the site.

THE EUROPEAN TIMBER MARKET

Stability at Last Achieved

THE European forest products market in 1957 appears finally to have reached the state of stability desired by all trade circles during the past years of often heavily fluctuating market conditions.

This is the conclusion reached in the Review of the European Timber Market, a publication prepared by the joint staff of the United Nations Food and Agriculture Organization (FAO) and the Economic Commission for Europe (ECE). The Review* covers the first half of 1957.

The pattern of wood consumption also seems to have become more balanced, and, although efforts to use wood more economically will continue, as will competition from different substituting materials, changes comparable with those taking place between 1948 and 1956 are, therefore, less likely to occur, the Review says.

The Review, which contains a detailed analysis of the general timber market situation through July, 1957, also deals specifically with consumption, trade and prices in the industry.

The forthcoming meeting of the ECE Timber Committee in October, 1957, is likely to be of considerable interest, the Review points out, since it is perhaps the first time in the Committee's history that market reviews and future appraisals can be made under generally normal and stable market conditions.

* 'Timber Bulletin for Europe,' Vol. X, No. 1, 74 pages; Geneva; available in bilingual edition, English-French, from Sales Section, European Office of the United Nations, Geneva, or may be ordered through Sales Agents for United Nations Publications. Price $1.00, 7/6 stg., Swiss frs. 4.

BUILDING RESEARCH, 1956

Applying Research to Industry

IN their *report for the year 1956, the Building Research Board discuss the particular difficulties within the building industry of applying the results of research. Only some sections of the industry are able to make direct use of new scientific and technical knowledge. For the most part, detailed explanation, demonstration and follow-up advice are essential. Despite the importance of this advisory work the Board conclude that no increased effort ought to be given to it at the expense of the Station's research work and that the industry should do more to help itself. The Board are critical of the slow progress on new accommodation at the Building Research Station, but also strike two more cheerful notes. Work on the design of factories, subscribed for directly by the building industry to the tune of £5,000 a year has begun and the field laboratory, previously at Barnet, has now been able to join the rest of the Station at Garston. Benefits from the latter event, say the Board, are already apparent and it emphasises the importance of transferring the whole of the Building Operations Research Unit, at present in London, out to Garston as well.

The Board also mention international collaboration in which the Building Research Station is taking an important part. Investigations being carried out in collaboration with other countries in Europe include some on flat roof construction and rain penetration.

Investigations Concerned With Aircraft

Several investigations in progress are concerned with aircraft in one way or another. For example, a new requirement which buildings may have to measure up to in the future is the impact load of a helicopter. There is little room in the centres of cities, and when helicopter services get into full swing, the most obvious landing places will be rooftops.

Machines seating about 40 passengers are not far away. They may weigh up to 50,000 lb. and emergency landings could impose much higher impact loads almost anywhere on the landing surface. These emergency landings, ordinary landings and vibration from turning rotors present structural problems radically different from any met with now. Design and forms of construction to stand up to these stresses may need a great deal of research and testing. A preliminary study has been made to find out how much is known already and the outstanding questions to be answered.

Helicopters also present a noise problem. The work with microphones and tape recorders along the Thames on the route in and out of the South Bank has been completed. It had been thought that some reduction of the noise as it passes over the roofs of buildings might be expected, but the reduction was negligible when the helicopter was 300 ft. or more up. Low frequency noise is a possible cause of damage to buildings and future jet aircraft are also expected to be a source of this type of noise. The low frequency noise output of the largest jet aircraft now flying is being measured and the Station is also investigating the noise intensity needed to crack windows.

Yet another building problem connected with aircraft is the question of sonic bangs. They are alleged to cause damage and at the request of the Ministries concerned BRS has been looking into this. Many examples of damage have been examined and instruments are being developed for measuring the transient air pressures involved. Eventually it may be possible to suggest a remedy or at least something to relieve the effects.

Other Investigations

Other subjects dealt with include:

Concrete Shields for Nuclear Reactors: Some other work of a strictly contemporary nature being tackled is the design of concrete shields for nuclear reactors. When a pile is operated, the shield, which is about 7 ft. thick, is heated by absorbing neutrons and gamma radiation. Shield design must allow for stresses developed through temperature change or drying shrinkage and the extent of cracking or opening of construction joints must be carefully controlled. BRS is co-operating with the UK Atomic Energy Authority on this problem and has installed a variety of instruments at Calder Hall to observe changes in the concrete.

Spray Taps: A successful piece of work was completed during the year on spray taps. Fuel and water consumption in offices can be cut by half by the use of these instead of the usual full bore taps. They are just as acceptable, if not more so, to office workers. A mixing tap which gives the user some control of the temperature of the water is now being manufactured. More trials are being arranged and it seems likely that many firms and schools will eventually go over to this form of water supply.

Shunt Flues: Shunt flues are arousing interest. They are really shared flues and are a method of saving money in flat construction. There is already a system used successfully on the Continent with closed stoves, but as most people here use open or openable appliances this will not suit British conditions.

Two experimental branched flues have been built in London housing blocks, one having open fires and the other openable stoves. Each branched flue serves four appliances, the top home having a separate one. Both flues have been tested while the blocks were unoccupied and found satisfactory. One block of flats now has people in it and there have been no complaints of smoking, so the results are encouraging.

Climbing Cranes: The Station is following up its work on tower cranes with some on climbing cranes. It has imported a crane of this type from a French manufacturer. The idea is that the crane is mounted on the building and climbs with it as it is built. The advantage is that for a given coverage the crane is smaller and therefore cheaper than a rail mounted crane designed to do the same work. After minor modifications had been made to it because of British legal requirements, the crane is now being used in building a nine-storey office block in the City of London where a rail mounted crane would be impracticable. Data are being collected on its performance. It seems that cranes of this type may be extremely valuable in building blocks of flats around 15-20 storeys which are now contemplated by some local authorities.

Building Costs of High Flats

The question of the costs of building high flats is still occupying the Station and the investigation is now getting down to detail in a complicated field. There are wide differences in the productivity of different contractors and at different stages of work on the same site. This means that information has to be collected usually over a period of months and from a number of sites. A start has been made on a fairly large scale, on gathering data from a number of multi-storey building projects, including flats, maisonettes and offices. One good thing about this work is that the Station is often asked by the contractor to help in planning the work before building starts and so can make its influence felt in the industry.

Design of Light Sheeted Roofing: Light sheeted roofing, widely used in factories, requires special care in design to avoid the condensation of moisture on its inner surface. Theoretical studies of heat flow and moisture migration, with practical trials on factory-type roofs, have established principles of design for new buildings and also methods of remedying trouble in existing ones.*

Insertion of Damp Proof Courses in Existing Walls: Many of the difficulties in maintaining old property arise from the absence of a damp-proof course just above ground level. Generally, the insertion of a damp-proof course in an existing wall has been regarded as prohibitively expensive, but the Station has now devised a means of doing this rather more cheaply, at a cost of about 7s. 9d. per foot run. A slot is cut right through the wall, using a hand or power saw, and its advance is closely followed by the insertion of 20 in. lengths of sheet zinc.

Unusual inquiry from America: An unusual inquiry for the Materials Section came from America. Tryon Palace in North Carolina, the first Government House of the Colony, was destroyed by fire in 1790 and was not rebuilt. It is now being reconstructed and the architects are trying to use original sources of material as far as possible. The Palace was made of red sandstone from England and the Station, with the Geological Survey and Museum, was asked to trace it. Four quarries might have exported the stone but only one, at St. Bees in Cumberland, is still workng. The stone from this quarry is near enough to the original and will be used.

**Building Research* 1956, published by HMSO for DSIR price 5s. 6d., by post 5s. 9d.

*It is understood that the Station hopes to publish a report on this work, in the National Building Studies series, before the end of the year.

OVERSEAS CONSTRUCTION

Record Figures by British Contractors

DURING the 12 months ended March 31 last, British building and civil engineering contractors carried out work overseas to the value of £94m.—over £7m. more than during the previous 12 months, according to information compiled by the Ministry of Works. Nearly 60 firms were working overseas and their activities were spread over more than 50 countries. It is disappointing but, in view of the difficulties in the Middle East, perhaps not surprising, that the value of new contracts obtained during the period was only £92m. compared with £109m. in the previous year. That there is still plenty of work available seems clear: according to Press reports American firms carried out about £250m. of work overseas last year, and Italy and Germany are also competing keenly. Comparative figures showing the activity of British firms overseas for the past two years are given below:—

	Total value in £million of contracts obtained in year ending		Estimated value in £million of work done in year ending		Value in £million of work outstanding	
	Mar. 31, '56	Mar. 31, '57	Mar. 31, '56	Mar. 31, '57	Mar. 31, '56	Mar. 31, '57
Sterling	70	51	59	62	83	66
Dollar	22	29	19	19	15	23
Non-sterling O.E.E.C.	6	11	5	7	9	12
Other non-sterling ...	11	1	4	6	8	3
Total	109	92	87	94	115	104

The total value of new contracts obtained fell in the sterling area, but there have been considerable increases in the value of new work obtained in some of the countries concerned; for example, in the West Indies, in New Zealand and in Nigeria and Pakistan. These increases have been offset mainly by a falling off in orders obtained in Australia, Cyprus, Iraq and Kuwait. Despite the fall in new orders the total amount of work carried out has continued at about the same level as in the previous year, and about a year's work is still in hand in the area as a whole. It is to be hoped therefore that in the coming 12 months the value of new orders will again increase.

In the dollar area the situation is more encouraging. Contracts to the value of £29m. were obtained in Canada in 1956-57 by 14 British firms compared with just over £20m. by 20 firms in 1955-56. In view of the high level of constructional activity in Canada there may well be scope for further increases. It is of interest that, according to statistics collected by the Canadian Government, expenditure on new construction this year will run at a level of about $5,563m., $300m. above expenditure in 1956 and equivalent to an expenditure of $346 per head of population. Comparable figures in other countries are:—

	Per head of population
USA	$280
Great Britain	£30
Australia	£A38

Building costs rose in most countries last year. In comparison with the rise of about 5 per cent. in Great Britain the increases elsewhere showed wide variation. In France, for example, the increase was as much as 12 per cent. but in Italy and Portugal it was as little as 1 per cent. In the United States and in Canada prices rose by about five per cent. in 1956, and probably some 4/5 per cent. must be allowed for price increases in assessing the rise in the volume of overseas work carried out by British firms last year.

Varied Work

The jobs undertaken continue to be as varied in scope as in previous years both within the Commonwealth and in other countries. They include such projects as the construction of a three-span steel road bridge at Nassiriyah, Southern Iraq, for which Dorman Long obtained a contract of over £½m. against keen competition from French, German and other European contractors and also in competition with the American firm which was the main contractor for the Teheran scheme. Among projects in Canada, Sir Robert McAlpine and Sons have been working on a railway scheme valued at $1½m. at Cornwall, Ontario, connected with the St. Lawrence seaway project. This firm are also working on a concrete-framed building for the Royal Military Academy at St. Jean, near Montreal. Messrs. Holland & Hannen and Cubitts are erecting in Montreal a headquarters building for the Federal Income Tax Department at a cost of $9m. Although the Kariba Dam contract was not awarded to British contractors, Messrs. Costain have a contract for the erection of houses, etc., for the new town. Messrs. Taylor Woodrow are erecting university and school buildings in Burma. Contracts were obtained in a number of countries where no new contracts had been obtained in 1955-56; for example, in Burma, Norway, Qatar, Portuguese East Africa, and also in Italy, where no work had been in progress during the previous year. Some of the firms working overseas are competing in many areas; for example, Messrs. Wimpey have contracts in more than 10 countries.

The wide range of work which continues to be available is illustrated by the information about proposed building and civil engineering schemes obtained by the Board of Trade overseas officers and circulated to subscribers in 'Call for Tenders' by the Board's Export Services Branch. (These details are regularly abstracted in our 'Overseas Building' columns—ED.).

Recent notices have included invitations to tender for the construction of a hydro-electric power station at the Keepit Dam, New South Wales. It is not known whether any British firms have submitted tenders. In the same area advance notice has also been given of the project of the Hydro-Electric Commission of Tasmania to construct a power station near Cressy, Tasmania. Other large jobs which have been notified are the construction of a bridge over the river Chari at Fort Lamy, Tchad, French Africa, and the construction of an electric power station on the River Limay, in Neuquen, Argentina.

It is hard to measure precisely the value to the country of all this work. Although British plant is not always installed when the contractors for the construction are British, this often is the case, and it is of interest to note that exports of plant and machinery, which ran at about £700m. in 1956, had risen by over 10 per cent. and are still rising.

CRICKET

RIBA Draw with RICS

THE annual match played between the RIBA and the RICS, at Cheam on September 11, was unfortunately spoilt by rain. A. J. Drew, who has been in form with the bat this season, hit a good 50 on a slow wicket and the Chartered Surveyors closed their innings at 167 for 4 wickets. The RIBA had made 50 for three when rain forced the game to be abandoned as a draw. Scores:

RICS

B. Lindsey c. Wood b. Batty	43
A. Goater c. and b. Batty	24
F. Barns c. Seward b. Francis	42
W. J. Bullard c. Wood b. Batty	2
A. Drew not out	53
A. King, D. Thurlow, P. Chesshire, L. Grimes, C. Harrison, D. Gray	did not bat
Extras	3
(for 4 wickets declared)	167

Bowling: Wood 0 for 40, Francis 1 for 56, Batty 3 for 30, Norton 0 for 9, Robinson 0 for 31.

RIBA

J. G. Batty run out	11
W. Beeston b. Harrison	12
A. Marlow lbw. Grimes	7
J. Seward not out	18
G. Fyson not out	0
D. L. Robinson, C. A. R. Norton, A. Wood, L. G. W. Bishop, R. T. Holmes, H. E. S. Francis	did not bat
Extras	2
(for 3 wickets)	50

Bowling: Harrison 1 for 25, Grimes 1 for 23.

Films on Copper

Principals of technical colleges and secretaries of organisations who wish to include the Copper Development Association's colour films, entitled 'Copper Flashing' and 'Copper Weatherings,' in their winter programmes of lectures and demonstrations to masters and operatives, are asked to make early application to the Building Engineer, Copper Development Association, 55, South Audley-street, W1.

THE INSTITUTE OF HOUSING

Rent Control: 'Drastic Act' Was Necessary, says Mr. Bevins

ANY change in rent control legislation which had not been drastic would have been useless, claimed MR. J. R. BEVINS, Parliamentary Secretary to the Ministry of Housing and Local Government, when he spoke on September 12 at the annual conference of the Institute of Housing at Brighton.

He recalled that at the conference last year Mr. Leigh-Breese had said that the difficulty of getting private builders to build to let would not be overcome 'unless and until something pretty drastic is done about the Rent Restriction Acts.' Shortly afterwards, Mr. Sandys announced that the Government would review the Acts, and the Rent Act was now law. 'I don't know if it is drastic enough for Mr. Leigh-Breese,' Mr. Bevins continued. 'All kinds of decontrol are unpopular at first, because most of us find it more painful to give than to receive. Because we have lived with rent control for something like a third of a century and people are used to artificially low rents, any drastic modification to rent control is bound to be disliked. Yet any change which is not pretty drastic would be useless: it would irritate everyone and achieve nothing.

'The main provisions of the Rent Act affect about 5 millions out of the 13½ million dwellings in England and Wales —those let unfurnished at controlled rents. Of these 5 millions, some three-quarter million are decontrolled, and the other 4¼ million remain at present under control so long as they are occupied by their present tenants (or those entitled to succeed them as statutory tenants). While the Act affects millions, it still only affects a minority of householders in the country. The Act came into operation on July 6. No rent increase for the controlled dwellings can come into force before next month (October 6) at the earliest; and, if the increase is more than 7s. 6d. a week, the full increase cannot come into effect before April 6 of next year.'

Slum Clearance Progress

Referring to other aspects of the Government's housing policy, Mr. Bevins described slum clearance as 'the biggest housing job at present in progress.' He added: 'Last year saw an excellent beginning to the five-year campaign in the demolition or closing of some 35,000 houses. This year's figure will probably exceed 40,000.' Equally important was the need to ensure that existing houses, capable of improvement, were not allowed to fall into decay, he continued. 'The scheme for the payment of grants under the Housing Act, 1949, is a means of encouraging owners to bring our older houses up to date and to convert larger houses into a number of self-contained dwellings,' he said.

'Grant payments are now running at the rate of 35,000 a year. This is a big increase over the number paid during the first few years of the scheme, but I believe there is still great scope for more improvements and conversions. I sometimes wonder if there is a sufficient understanding of the all-round benefits of the grants scheme. For what happens is that the tenant of an improved house gets modern living conditions: the owner gives his property a new lease of life, and the ratepayer will often get back in higher rateable values more than the Council's share of the grant. All this is at comparatively little cost to the public purse, and certainly less expensive than replacing an unfit house. Both from the local and national points of view the improvement of our older houses is a sound investment.

'The administration of these grants lies with the local authorities, and, of course, they have a wide discretion. Most authorities have been quick to see the advantage of the system and are operating it. But—and I am sorry to say this—not all of them are. A minority have felt unable to do so—though not, in my view, for very convincing reasons. And some who are giving grants are doing so a bit half-heartedly. I think this is a great pity. Not only is it short-sighted: it is also unfair, because it means denying to some citizens opportunities and benefits which are available to most, and should be there for all.'

Electric Floor Warming Advocated by LCC Housing Director

SOME 2,000 LCC flats are being built with thermostatically controlled electric floor warming. Tenants will be able to control the heat to suit both their requirements and pocket. This was disclosed on September 13 by Mr. R. J. Allerton, FRICS, AMIMunE, Director of Housing to the London County Council, in the course of a paper he read on 'Flats—Management Aspects of Design, Equipment and Layout,' at the Institute of Housing Conference.

MR. ALLERTON said electric floor warming was clean, efficient, reasonable to run and maintain, and capital costs were comparatively low. Under-floor heating would overcome condensation troubles which often arose in new flats built by modern construction methods. The difficulty of providing open fires in tall blocks of flats, owing to the long flues required, made it essential today to consider alternative forms of heating. Heating systems such as hot-water central heating gave a higher standard of heating than the open fire, but they all had one major drawback—only to a very limited extent could the tenant control the amount he had to pay each week for this service, which was usually high.

Up-to-date housing authorities strongly inclined to the view that tenants should be able to control their expenditure on services of this kind, and heating systems which would achieve this were preferred. Electric under-floor heating satisfied this condition, said Mr. Allerton, which had been successfully used commercially and industrially for some time and had now been adapted to domestic use in subsidised dwellings.

Bamboo in Building

The latest issue of 'Colonial Building Notes' (No. 46), prepared by the Colonial Liaison Officer of the Building Research Station, DSIR, is mainly devoted to a survey of bamboo as a building material.

BOOK

**** Books reviewed in these columns may be obtained on application to the Book Dept., 'The Builder,' 4, Catherine-street, Aldwych, WC2. Cash (which should include 1s. to cover postage and packing) should accompany the order.*

THE RENT ACT 1957. By Geoffrey Rippon, MA, MP, of the Middle Temple, Barrister-at-Law and A. E. Telling, MA, of the Inner Temple, Barrister-at-Law. (The Estates Gazette, Ltd. Price 25s.)

THE object of this book is to provide a practical guide to the complicated provisions of the new Rent Act.

The substantive part of the book covers 83 pages with an Introduction explaining the background and history of rent control legislation in this country up to the present, followed by 14 short chapters under appropriate subject headings dealing with the changes introduced by the new Act. There are also three Appendices, the first two of which reproduce the texts of the Act itself and of the new Regulations containing prescribed forms, and the last sets out the surviving provisions of the Rent Acts, 1920 to 1939, and Housing Repairs and Rents Act, 1954, as amended by the new Act.

On the whole the explanation of the complicated provisions of the Act has been well done and the effects of the Act are set out in clear and simple language. On one subject, however, the desire for simplicity has given rise to lack of clarity and inaccuracy. A fuller account of the protection given by Part I of the Landlord and Tenant Act, 1954, which now applies to all long tenancies whatever the rent payable, would have made it clear that this protection only applies to premises with a rateable value within the limits prescribed by the old Rent Acts. This limitation has been ignored on pages 18 and 75-6. The position of sub-tenants whose interest is derived from a long tenancy would have been made clear if the effects of section 41 of the Housing Repairs and Rents Act, 1954, and section 15 of the Landlord and Tenant Act, 1954, had been mentioned in the text on page 76.

Further, it is not correct (as is suggested on page 73) that the amendment of paragraph (h) of the First Schedule to the 1933 Act has resulted in the deletion of the 'greater hardship' provision which hitherto applied to claims for possession under this paragraph. The direction with regard to greater hardship is contained in a proviso to the First Schedule itself, which proviso remains unaffected by the substitution of the new paragraph (h).

Notwithstanding these comments, there can be little doubt that the book achieves its purpose, and it should prove of great assistance to professional and lay persons alike whose business it is to deal with or manage properties occupied for residential purposes.

GEORGE AVGHERINOS

BOOKS RECEIVED

CRUSADER CASTLES. By Robin Fedden and John Thomson. (London: John Murray). Price 18s.

REINFORCED CONCRETE DESIGNER'S HANDBOOK. By Charles E. Reynolds. (London: Concrete Publications Ltd.). Price 18s.

TECHNICAL COURSES

'Sandwich' Courses List

THE system of technical training popularly known as the 'sandwich' course is an important feature of the Government's technical education expansion programme. The courses consist of alternate periods of work in industry and at college, and are designed to make it easier to provide for the scientifically inclined youth of the nation the high standard of technical training necessary to produce engineers and scientists the country so badly needs.

A list of the sandwich courses now available published by the Ministry of Education on September 11 (HMSO, price 1s. 4d.) shows the various types of courses offered, where they can be taken, the awards to be gained through them and other relevant information. Nearly 70 colleges in all parts of the country are offering sandwich courses leading to advanced level educational awards such as the Higher National Diploma or Certificate, or the new Diploma in Technology, to be awarded by the National Council for Technological Awards.

Building Crafts Training School

DAY AND EVENING Building Craft Courses are offered designed to prepare students for the examinations of the City and Guilds of London Institute and to meet the requirements of apprentices and others already engaged in a particular craft who desire a sound knowledge of the theory and practice of their craft.

Part-time day and evening courses include brickwork, carpentry, joinery, masonry, painting and decorating, and plumbing. There is also a plumbers' welding course. Details from the School at 153, Great Titchfield-street, W1.

LCC Technical Colleges

A PAMPHLET giving brief particulars of part-time day and evening courses held in the Council's Technical colleges and schools of art and also of similar courses provided in the London polytechnics, has been issued by the LCC. This contains names and addresses of schools and colleges in the area and of courses available. Copies ob-obtainable from the Education Officer, tainable free from the Education Officer, County Hall, Westminster Bridge, SE1.

Training in Concrete Practice

THE COURSES introduced three years ago on Concrete Practice designed for the practical man on the job have proved their worth, and about 50 colleges widely distributed throughout the country are running them regularly, states the Cement and Concrete Association. The full course covers two years, each year comprising 24 lectures, held weekly. Certificates are awarded by the City and Guilds of London Institute to successful candidates at the end of each year.

The syllabus includes both lectures and practical work and covers the following subjects: Concrete materials (properties, storage, tests, etc.), proportioning and batching, the use and care of machinery, placing, compacting, curing, tests on concrete, formwork, reinforcement, prestressed concrete and the manufacture of precast products.

Another course of interest to those concerned with concrete construction is that of Formwork and Shuttering for Concrete Construction. The appearance of any concrete construction depends very largely upon the formwork used, and it is essential that those engaged in the preparation of the forms should be fully conversant with the particular problems involved.

This course is run by several colleges, and it is hoped that employers will encourage the appropriate members of their staff to take advantage of it.

Details of both the courses can be obtained from technical colleges throughout the country.

LMBA VISIT TO BERLIN

How Rebuilding is Financed

TWELVE members of the LMBA's North-Eastern Area, under the leadership of Mr. H. J. Horn, the Area Chairman, have just returned from a very successful visit to Interbau, the International Building Exhibition now being held in Berlin.

During the course of their week's stay, the party visited many of the building projects now on foot in Berlin. These differ greatly in size and variety. The role played by private builders in the rebuilding programme made the deepest impression on the visitors. Local Authority house-building is apparently unknown. Housing schemes range from single-dwelling units to 17-storey blocks of flats and the Berlin Senate encourages development by lending, at very favourable rates of interest, 35 per cent. of the finance required, on condition that the building owner provides a deposit of not less than 15 per cent. of the total cost and is able to obtain the remainder through other sources.

The pre-war population of the Hansa district, immediately opposite the Tiergarten, which was designated as the Interbau Exhibition, was 5,000. When rebuilding is completed, it will number 4,500 with this difference, that the amount of open space will be five times as great as it was before the war.

On the first day of the visit, a representative of the Senator for Building took the party on a conducted tour of the city, and the Berlin branch of the Bund Deutscher Baumeister, Architeckten und Bauingenieure arranged for it to visit the exhibition and buildings of interest. The Association gave great assistance to the visitors throughout their stay in Berlin, and before they left the party entertained several of its members to dinner, at which the chairman of the North-Eastern Area presented the Berlin branch with a copy of the LMBA handbook, signed by the president and the members of the party, and accepted, on behalf of his colleagues, a book containing photographs of East and West Berlin.

During the visit the LMBA party met some 30 members of the Architectural Association who were on a similar mission, and joined with them on several of their outings.

The 12 members of the party were: Messrs. H. J. Horn, JP, MIOB, Chairman of the Area (J. and R. Rooff, Ltd.); H. W. Beaumont, FIOB (G. H. Miller and Co., Ltd.); F. N. Carmody (Ford and Walton, Ltd.); F. B. Dean (Dean Homesteads, Ltd.); O. J. Dean, JP, MIOB (J. and J. Dean, Ltd.); R. N. Eyre (Newman Eyre, Ltd.); W. J. Jerram (W. J. Jerram, Ltd.); E. J. Michell (Mitchell and Co. (Walthamstow), Ltd.); A. G. Miles, MIOB (Hammond and Miles, Ltd.), a former Junior Vice-President of the LMBA; E. W. Smith, MIOB (Edward W. Smith (Romford), Ltd.); R. E. Smith (Edward W. Smith (Romford), Ltd.); P. A. A. Gatehouse, Area Secretary.

SAFETY CAMPAIGNS

Norwich Accident Prevention Group Formed

THE recently formed Norwich Building Accident Prevention Group has now over 50 members, and the inaugural meeting will be held on Wednesday, October 16, at Samson and Hercules House when Mr. Peter Trench, OBE, will speak on 'The Direct Cost of Building Accidents.'

The winter programme will include a demonstration on scaffolding and a film show and discussion on site organisation and excavations. The Eastern Federation's one-day course on accident prevention on December 2, will also play its part in making Norfolk builders more safety conscious.

Mr. M. J. Youngs, MC, is Hon. Secretary of the Group, which is sponsored by the Norwich Building Trades' Employers' Association.

Reading Group's Inaugural Meeting

The newly-formed Reading and District Building and Civil Engineering Accident Prevention Group held its inaugural meeting in Reading on September 5. Mr. Leonard Walden, FIOB, president of the National Federation of Building Trades' Employers, who is also a member of the Reading Association, was elected first president of the group. The objects of the group are:—

(a) To promote interest in accident prevention among building and civil engineering and ancillary firms within the group area, also to maintain the interest of member firms in the study, application and improvement of accident prevention methods.

(b) To foster and develop the spirit of co-operation between employer and employee as regards accident prevention and to encourage the establishment of active and efficient safety organisations.

(c) To study accidents especially with the object of finding effective means of preventing recurrence.

(d) To afford facilities for the pooling and dissemination of knowledge, for the study of the appropriate statutory requirements, for the reading of papers and the promotion of lectures and discussions and for such other activities as may tend to further the general objects of the group.

Membership is open to builders, architects, foremen, clerks of works, operatives, technical schools and ancillary occupations. Chairman of the group is Mr. G. W. Becquet and Mr. J. T. B. Crouch is honorary secretary. The elected committee will meet shortly to draft a programme.

SPECULATIVE HOUSEBUILDING

Southern Counties Discuss New Specification

THE Southern Counties Federation of Registered House-Builders held a meeting under the chairmanship of Mr. J. B. Ratcliffe recently, and had an opportunity of discussing the new general specification of constructional standards for houses and flats not exceeding two storeys in height. The Director of the National House-Builders' Registration Council addressed the meeting on the new specification. Considerable interest was shown by Southern Counties members, as was evinced by the very interesting questions asked and answered. The new specification, it is understood, was welcomed as being very useful and also necessary, in view of changes and advances continually being made in building construction.

NEWS IN BRIEF

Solid Fuel Display

'SOLID Comfort,' a special display of solid fuel appliances for the home, will be held at The Design Centre, 28 Haymarket, SW1, from September 24-October 26. Presented in co-operation with the Coal Utilisation Council, it will show modern appliances for room and water heating and cooking. All are on the List of Recommended Domestic Fuel Appliances, published by the Coal Utilisation Council and the Solid Smokeless Fuels Federation.

The Late Mr. Alfred Pinton

Mr. Alfred Pinton, chairman and managing director of Roberts Adlard and Co., Ltd., Bromley, died at his home at Pines-road, Bickley, Kent, on September 15.

Industrial and Factory Law Course

A course on industrial and factory law will be held under the auspices of the Industrial Welfare Society from October 22-24, at Robert Hyde House, 48, Bryanston-square, W1. Mr. Harry Samuels, MA, barrister-at-law, will be the lecturer. The course covers the legal groundwork necessary to industrial managers and executives. Particulars from the secretary of the Society.

Stockton Exhibition

Stockton Town Council is to hold an exhibition in November to enable residents to see their town of the future. At a special meeting, final approval was given to town map proposals agreed with the County Council during discussions extending over four years. The proposals are expected to receive formal County Council approval at their meeting in early November and will then be published in full. They are also to go to the Minister of Housing and Local Government for confirmation and a public inquiry into them is to be held in due course.

Bureau to Expand

The work of the Lighting Service Bureau is to be continued and expanded under the auspices of a new and more representative body. The founder members will be:—The British Electrical Development Association, the Electric Lamp Industry Council, the Lighting Equipment Development Council. The co-operation of the electricity supply industry and manufacturers of lighting equipment and of electric lamps in bringing to the attention of architects, consultants, doctors, government departments, industrialists, shopkeepers and engineers the most efficient means of using electricity for lighting and of getting the best service from electric lamps and equipment will benefit everyone, it is stated.

OFFICIAL NOTIFICATION

Disposal of Copper from the Government Stock-pile

THE Board of Trade announced on August 20, that they intended to dispose of 27,000 tons of copper from the Government stock-pile, but that none would be offered for sale before October, 1957.

The Board now wish to announce that, in view of the disturbed state of the copper market, they have decided not to offer any of this copper for sale for the time being.

WHOLESALE PRICE INDICES

Building Materials Rise

THE basic materials index maintained by the Board of Trade fell again in August by 0.4 per cent., and is now 4.6 per cent. lower than at the peak reached at the end of 1956 as a result of the Suez crisis. The index for building and civil engineering materials, however, at 147.8 is up both as compared with July (146.3) and August, 1956 (143.2). House building materials are also higher at 146.9 as against the July index (145.9) and August, 1956 (143). The effect of this on the index of the overall cost of building and civil engineering has not yet been calculated; last available index for the quarter ended June was 139, which was the same as for the previous quarter.

COMPANY NEWS

Acrow (Engineers), Ltd. announce that CIC consent has been obtained for a rights issue to ordinary shareholders of 'A' non voting shares of 5s. each at 20s. per share, in the proportion of one new non voting share for every eight ordinary shares previously held.

Austins of East Ham, Ltd., have recommended a final dividend of 7½ per cent., less tax, on the ordinary shares of the company for the year ended March 31.

Babcock & Wilcox, Ltd. have declared an interim dividend of 7 per cent., less tax, on the ordinary stock in respect of the current year (same).

Bambergers, Ltd., have recommended a final dividend of 9d. per share on the ordinary shares of the company, less tax, for the year ended March 31.

General Electric Co., Ltd., have recommended a final dividend of 8 per cent., less tax, for the year ended March 31.

G. R. Herron & Son (Holdings), Ltd., have declared an interim dividend of 4 per cent., less tax, on the ordinary shares of the company, for the year ending October 31. This will be payable on October 31 to shareholders on the register at the close of business on September 20.

Ketton Portland Cement Co., Ltd., have recommended a final dividend of 7½ per cent., less tax, on the ordinary shares of the company for the year ended June 30.

Swinnertons, Ltd., have declared an interim dividend of 10 per cent., less tax, in respect of the year ended December 31, payable on September 30 (same).

Joseph Westwood & Co., Ltd., have declared an interim dividend of 4 per cent., less tax, on the ordinary capital of £180,000 (same).

PERSONAL COLUMN

MR. EDWIN KING has been appointed assistant company secretary of Black & Decker, Limited, Harmondsworth, Middlesex.

MR. MATTHEW C. KIRKWOOD has been appointed a director of Afton Bricks, Ltd., New Cumnock, Ayrshire. He retains his directorship of Allan Kirkwood, Ltd., Arden Lime Works, Glasgow.

MR. J. MCGUIGAN, 10, Ganners-lane, Bramley, Leeds 13, has been appointed Nuralite technical representative in the Northern Region.

MR. S. YARROW, advertising manager of J. C. Bamford (Excavators), Ltd., Rocester, Staffordshire, is resigning his position from September 25.

Caterpillar Tractor Co., Ltd., London, announce the following recent appointments: MR. D. F. SHINN became manager of the sales department in July. MR. ROSS L. ADCOCK has been appointed district representative. MR. G. G. DEAKIN is manager of the advertising division and MR. T. R. WOLFARTH manager of the service division.

MR. F. R. CHERRY has joined Claygate Fireplaces, Ltd., Claygate, Surrey, as assistant sales manager.

'THE MANAGEMENT OF DESIGN'

Digest of COID Congress

THE Council of Industrial Design has now published 'The Management of Design,' a report on the International Design Congress which it held in London in September last. The book is a digest of the views expressed by more than 30 principal speakers from this country and abroad on the theme of the management of design.'

The conference discussed the practical implications of three cardinal principles: (i) An effective design policy involves giving responsibility to someone at or very near board level, who has sufficient authority and belief in design to supervise the formulation and execution of that policy; (ii) designers must take their place in the industrial team on an equal footing with engineers, researchers, salesmen and other specialists; (iii) good design is indivisible—it should extend to all activities of a firm, including its publicity material and auxiliary services.

These subjects form the main chapters of the book: Chapter 1, 'Implementing a design policy,' covering responsibility at Board level, the rôle of the chief executive, working out a policy, methods and procedures; Chapter 2, 'The rôle of the designer,' including his responsibilities, relations with the Board, recruitment and training, and the relative position of consultants and staff designers; Chapter 3, 'Implications for management' — the importance of team work, stimulating interest within the firm, responsibilities to the public and standardisation.

'The Management of Design,' which is illustrated, is available, price 3s. 6d. (4s. post free) from the Council of Industrial Design 28 Haymarket, London, SW1.

CONTRACTORS' PLANT ASSOCIATION

Handbook for 1957-58

AT THE end of September the Contractors' Plant Association is publishing its Handbook for 1957/58.

It contains in one volume a great deal of information relating to the hiring and operation of contractors' plant. In addition to the names and addresses of the members of the Association (both alphabetically and under counties), it includes the schedule of recommended rates of hire, the general terms and conditions for the hiring of plant, the Working Rule Agremeent of the Civil Engineering Construction Conciliation Board and the agreements covering the Holidays with Pay schemes.

There is also a section on legislation affecting contractors' plant and commercial road vehicles comprising relative extracts from the Factory Act, the Building Regulations, the Road Traffic Act and the Vehicles (Excise) Act, and in addition a section on plant data giving comprehensive details of capacity, weights and measurements of a large number of items of plant and the names of manufacturers and importers in classified lists.

Copies can be obtained from the Contractors' Plant Association at Hanover House, 73/78, High Holborn, WC1, price 17s. 6d.

THE TOWN AND COUNTRY PLANNING SUMMER SCHOOL

Transport Developments in the UK and Problems of Planning and Building in the Tropics

We publish below extracts from three of the papers given in the Overseas, and one from the Home Section, of the Town and Country Planning Summer School, held under the auspices of the Town Planning Institute, which took place at Oxford from September 2 to 11. The President of the Conference was Sir George Pepler, CB, P-PTPI. Extracts from earlier papers were given in 'The Builder' of September 6

Future Developments of Transport in the United Kingdom

By A. J. WHITE

IN spite of all uncertainties, we have managed to provide ourselves, in this country, with the most efficient and comprehensive aggregation of public transport in the world. In addition, we have permitted the free growth of private transport—both passenger and freight—and are still allowing it to expand almost unchecked. It has been estimated that at the present time the nation is spending around £2,500 millions a year on its internal transport and an economist might ask whether we can afford so much. He might go on to inquire whether we are getting full value for our money and whether we could achieve greater satisfaction, possibly at a lower price, if we used our resources more wisely.

Finally, anyone who is not content with the wealth of public transport available to him may buy a car, lorry or van and have the freedom of the whole road system just for the price of a licence.

For public transport undertakings and road authorities the really important questions of the day relate to the future growth of private car ownership. The number of cars licensed at the present time is about four millions, or about one to three families, and the avowed goal of the manufacturing industry is one car per family, which would give a total of over 14 millions. Even if so high a figure is unlikely, how many cars could we hold in our small country?

A great deal of nonsense is talked about our road system, which is frequently described as the worst in the world. In fact, it is one of the best. Our enormous mileages of well-kept secondary roads—and even main roads in most parts of the country—could still accommodate many times their present volume of traffic without inconvenience to anyone, and the only difficulty is that too many people want to go to the same places at the same times; in other words, they persist in 'bunching' in terms of space and time.

Voluntary discipline—a willingness to forgo the full exercise of individual freedom—could put matters right quite easily, but the attitude of mind engendered by ownership of a car discourages hopes in that direction. A leading member of the manufacturing industry recently said 'no man-made device since the shields and lances of the ancient knights quite fulfils a man's ego like a car. It endows him with status and a sense of power and independence.'

So it seems that we must either improve and enlarge our road system; or regulate the use of roads in congested areas at the difficult times; or restrict the licensing of private cars; or perhaps do all these things at once. I suggest that, however much we may dislike it, some degree of regulation is probably inescapable.

The worst congestion is, of course, to be found in our great cities for about eight hours a day on five days in the week. It is caused mainly by cars used to convey their owners from home to work and back again, but in London, at least, they represent only a fraction of the cars that would be brought in if there were room for them, and it is clear that the immensely expensive street widenings that are so glibly suggested would do little to solve the problem; the new space would be filled to overflowing at once.

If restraints must be placed on the use of private transport in the cities they ought to be reasonably fair and go no further than is necessary to restore freedom of movement to the citizens.

The simplest course might be to place the minimum restrictions on movement but to prohibit all street parking over large areas of our cities.

Travel to the City

Reconstruction in the City of London, so far as it has gone, has restored the number of office workers to the pre-war level; travel on some suburban lines which have been under-used since the war has increased, and although others have been rather pressed, on balance the situation has not worsened appreciably. But if the process were carried beyond the absorption of spare transport capacity things could become really difficult. I think that transport operators would now prefer to see residential developments in the City and would be able to give greater satisfaction to their new customers whose travel, in general, would be against the main flow in peak hours or outside those hours altogether.

It is hardly necessary to say that suburban dormitory estates create unbalanced transport demands which are very difficult to meet economically, and it is to be hoped that we shall have no more of them. The New Towns are in an intermediate transport category. To the extent that they create balanced traffic movements they are welcome to the transport operator, but they must be regarded with qualified approval if they add substantially to peak-hour travel over lines already well used, and a careful choice of a suitable route and a distance from the City along that route are important.

One can only hope that the New Town Corporations will be so successful in attracting both industrial and business undertakings that their transport demands are well balanced and that they will not find it necessary to ask for new stations and new trains for peak-hour travellers. For in these days such things are expensive.

Of all the efforts which are being made to deal with overspill problems transport undertakings must obviously welcome with the greatest enthusiasm the expansion of country towns. The growth of small towns at the expense of the large tends to even out the pattern of transport demands, makes their satisfaction simpler and more economic, and can continue for a long time before expensive new investment becomes necessary.

Technical Advances

I have left to the last a brief glance at technical changes. Over the coming years the widespread supersession of steam by electric and diesel traction on the railways is likely to have a profound effect on the speed, cleanliness and general attractions of railway passenger travel.

It is difficult to see any real possibility of revolutionary changes in the propulsion of road vehicles, for although the gas turbine and other alternatives to the petrol and diesel engines may be perfected, I am told that their advantages are likely to be no more than marginal, at the best.

For obvious reasons, internal air services are likely to fill no more than a minor and rather specialised role so long as existing types of equipment are used. It seems probable that an improved helicopter or a vertical take-off aircraft of some kind will soon make a contribution to our transport problems, but whether it will ever be cheap enough to affect to any great extent the general pattern of surface transport is a matter for speculation. It does just occur to me, however, that if the machines of the future are no quieter than the helicopters we know today, it will only be necessary to allow them to land in the cities to ensure a more rapid redistribution of population than will be achieved by any means presently available to the members of your Institute.

Urbanisation in Africa: Problems and Policies

By R. S. HUDSON, CMG

I HAVE been asked to say something to you about town planning in Africa from the point of view of the administrator. I had hoped that Mr. Oram, of Uganda, would do this because he has made a very special study of the question both in Uganda and when he was associated with us on the East Africa Royal

Commission when we delivered ourselves at some length on this important subject. However, I have seen something of all this at first hand in Northern Rhodesia, where I happened to be D.C. Lusaka when the capital was being built, and later as Labour Commissioner and P.C. Ndola when urban development, good and bad, was progressing rapidly and was our constant concern.

There are, of course, four main parties to the business of town planning. The planner himself with all his technical skill and experience; the local authority, whose co-operation and understanding is essential if the expert planning is to be effective and come to fruition; the administrator, who is especially concerned with the needs or prejudices of the people who are to live in the towns; and the people themselves, who are likely to have their own ideas about what sort of towns and what sort of house they want.

One has repeatedly seen the best-laid plans come to naught simply because the elementary precaution has not been taken of enlisting the co-operation, advice and understanding of all these four parties. Travelling around Africa one still frequently finds that housing has been provided for Africans without anybody having taken the trouble to find out what sort of dwellings and kitchens and offices the Africans want and need.

Of course urban development varies enormously in Africa from the European towns of East and Central Africa, usually associated with a fringe of slum dwellings outside the statutory township area, to the old indigenous towns of West Africa with their complex of rights and vested interests; so one cannot generalise too much and I will confine myself to mentioning a few outstanding problems and hope that others will emerge during discussion. But everywhere the tendency and the policy is towards building up efficient local government bodies with an increasing pride in and responsibility for developing well-planned, serviced and administered townships, and this requires a body of informed public-spirited people prepared to serve on local councils and a competent and experienced body of officials.

Two Essentials

It is important to ensure that in the old towns of West Africa the councils consist of representatives of all those who matter—that is of the traditional leaders as well as of the young elected members. It is also important to ensure that the position of the officials is safeguarded from interference by individual members of the council and that they are allowed to get on with their jobs under the general direction of the council without being subjected to improper influences. These essentials are not always to be found in African urban local government to-day.

One of the major problems which has to be faced is that of the migrant labourer and temporary sojourner in the towns. Although the population of the towns is increasingly becoming stabilised there are still many who are visitors living temporarily in towns to earn money before returning to their rural homes, where their security is; many more are spivs existing on hawking, casual employment and petty crime. Mr. Molohan, senior P.C. Tanganyika, has just added a most useful report on these problems which is well worth study by all concerned with urban development in Africa.

The conditions which I have indicated make it essential that there should be administrative control of the urban population first through chiefs, headmen and elders living in the towns, and second through a district officer or other such officer who will understand and be trusted by the African population and to whom the individuals can go in all their troubles and trials. The usual English local government set-up with officers and police is too impersonal for the needs of Africa and it must be supplemented by an efficient administrative arrangement of a kind familiar to the people. Especially is this so in East and Central Africa where the urban authorities are usually mainly composed of non-Africans. There may be direct African representation, African Affairs Committees and advisory councils, all good in their way, but there must at the present stage be an experienced guide and friend as well.

Land Tenure

The next point I must touch on is the economic one, to which the East Africa Royal Commission gave very careful thought and study. Throughout the world in nearly every town there is a section of the community which cannot afford to house itself at the standard locally demanded by health authorities, administrations and public and who either have to squat on the fringes of the towns or live in subsidised dwellings. The squatting merely results in the creation of slums and is no solution and the subsidising becomes less within the means of African territories as towns expand and resources are increasingly needed for productive investment. What is the answer? Before suggesting what it may be, I must just mention land tenure, which is an important facet of the problem, which must be taken into account. Mr. Stevens has described the function of planning as 'the co-ordination of all economic activities, whether public or private, connected with the development of land in the best interests of the territory as a whole.'

Where new towns have recently been formed the tenure is usually based on the English system and land is usually leased by the public authorities for development to the usually high standards required. A result of this is that those who cannot afford these high standards are forced to squat on the urban fringes. In the old indigenous towns, on the other hand, customary systems of tenure, which are jealously guarded, obtain. The land is usually held on a form of tenure approximating to freehold, by individuals, families or other groups. The land is usually unregistered and the rights extremely vague and giving rise to much uncertainty and litigation. In such circumstances controls are extremely difficult and we find the slums within the towns themselves.

What is required in all these circumstances has been described by Mr. Oram as

(*a*) The promotion of economic development by providing clear titles to and a worthwhile interest in holdings.

(*b*) The speedy and efficient administration of transfers in land in order that the best economic use can be made of it. This involves adjudication and registration of title.

(*c*) The prevention of the misuse of land, which includes the need to control sub-division and sub-letting.

On the form of tenure which is ideal for towns there is room for several views and it would be interesting to hear what the School thinks on this subject. Of course, what should be aimed at must depend largely on what exists in any particular locality, but where new towns are being established or old ones extended there is opportunity so to shape things as to achieve the objectives I have stated. In particular it would be valuable to hear the views of the School on the question of length of lease which should be granted in different zones where the zoning system is in force. Should leases be related to the standards of building set for the different zones? Should they all expire simultaneously irrespective of when they are granted, in the interests of town planning and redevelopment? Should the length of lease vary in any one zone in accordance with the standard of any particular building and not in accordance with the general standard demanded in the zone as a whole? These and other such questions must be answered and the answers adopted as firm policy if there is to be sound development.

The Big Problem

Here then is our big problem. How can the growing towns be developed to an adequate and rising standard within the means of the people and their governments? The answer to this 64,000-dollar question is, I suggest, to be found in Chapter 19 of the Report of the East Africa Royal Commission. It is to zone your urban areas, including the area surrounding the statutory townships; prescribing a low minimum standard for what I may call Zone Z, a standard approximating to that common in rural areas, but with planning and minimum health requirements for urban (or peri-urban) conditions. Next a higher set of standards in Zone Y and something like Park Lane standards if you like for Zone X. There will, of course, be no division by race or colour and all will be free to move from one zone to another as economic circumstances and social inclination dictates. Housing subsidies can then cease, provided that minimum wages are reasonable, and the present slum areas will be drawn into the scope of essential controls, including health, planning and administrative controls. In such a system land tenure should provide for security, ease of transfer and the maximum of mobility, with the length of leases appropriate to the different building standards. Public assistance should be in the form of loans and the provision of basic services.

Home ownership and self-help can thus be encouraged, as in the African townships adjoining the big towns of Northern Rhodesia. Of course, Zone Z *can* become slum. Whether it does or not will depend entirely on whether it is efficiently administered by the means I have suggested. A system of this nature will not avoid the need for rented houses, especially for migrant labour, but one might hope and expect that urbanised Africans will build houses which have rooms to let. This is in fact happening where Africans can own houses in towns and it provides a useful means of providing an income for the old and infirm who have invested in property in their heyday.

One other point. Surely there is much more likelihood of establishing a contented community in comparatively mean cottages in a Zone Z than in the dismal rows and crescents of the model housing estates which conform to all the best criteria of model houses but lack soul.

Of course, the conversion of the existing towns to such a system will raise many technical and human problems, but I suggest that the adoption of a policy on these lines is that best suited to most African towns.

The principles I suggest are clear, but their interpretation must be flexible. The administrators responsible for guiding the application of this policy must be men of patience, persistence and persuasiveness if they are to enlist the co-operation of the local councils, the technical officers and, above all, the people.

Development of Planning Standards Overseas

By H. THORNLEY DYER, FRIBA, AMTPI

MY own experience has been gained in Kenya, where for the past 12 years I have been Town Planning Adviser to the Government. I have a fair idea of conditions in the other East African territories, Uganda, Tanganyika and Zanzibar, and a nodding acquaintance with West Africa, the Rhodesias and South Africa. Climatically, Kenya offers typical humid tropical conditions in the coastal belt and temperate conditions in the Highlands, but it does not suffer from the hot and dry, highly populated areas which are to be found in the Sudan, parts of West Africa, and other colonies.

Multi-racial problems, one of the greatest challenges to the planner's imagination and patience, abound in Kenya, where the indigenous African and Arab populations have to be equated with immigrant Muslims from Pakistan, Hindus from India, and Europeans from many countries whose varying religious and educational needs have all to be catered for. Superimpose on a social structure of such great extremes a rapidly developing system of government based on the English model—with ministers, county, district and city councils, township authorities, and so on . . . and you have as complex a set of conditions as any planner can hope to encounter.

And here I would like to exercise what I consider to be a special prerogative of planners—an inquiring mind—and break off to ask: 'What standard of planner is needed overseas, and how should he be trained?' I am myself convinced that the nature of planning work in the Colonies and Dominions warrants special training and that the curriculum for the AMTPI and the day-to-day planning experience in England are not related to overseas work.

In Europe, and Britain in particular, the present way of life has evolved so gradually over the centuries that even allowing for the acceleration in rate of change caused by two world wars and the astonishing scientific advances of the past 20 years, town planning standards have been able almost to keep pace and, at least in the main, not be completely anachronistic. But in the Colonies the change has been more like revolution than evolution, and the jump from bush-dweller to twentieth century mechanisation has been made in two decades.

First Principles

The planner in the colonies has to go back to first principles. He finds himself having to discard much that he has hitherto looked on as sacred and inviolable, examine afresh every axiom and principle, and question in the light of actual local needs such inherited shibboleths as 'back-to-back housing,' 'overcrowding,' 'six acres per thousand for playing fields' . . . and the like. (He may find in practice, for instance, that there is justification for low-cost housing densities of 20 persons to the acre, and, in some circumstances, for 2,000 to the acre.) The problems facing him have little or no counterpart in the normal run of planning work in England, and the scale of his work is so vast (and the man-power and facilities at his disposal so ludicrously small) that he has to streamline his approach as it were, letting much of the detail take care of itself, in order to safeguard the main planning lines and avoid major mistakes.

Most overseas planning offices are so under-staffed that survey has to be limited to outline investigations, based on strictly immediate and practical needs. What is more, the basic survey information that would be taken for granted in England is often non-existent, even in such elementary matters as topographical maps and population statistics. Valuable information can be gathered, however, from reports and surveys by various Government Departments, inter-territorial research bodies, official and semi-official organisations and local government records, though there is, inevitably, a fair amount of overlapping, and it takes time to extract the information required. From my own experience, all available planning officers are caught up in the day-to-day work, and, if it is at all possible, I would advise that one member of any planning team should be a sociologist, geographer or research officer, engaged solely on collecting and collating survey information.

Insufficient basic data gives rise to the big mistakes in planning: for example, the fundamentally unsound siting of towns and rural industries, or a failure to appreciate the significance of social changes. In Kenya, lack of information on soil and drift geology has resulted in the siting of towns on ground where the nature of the soil involves expensive foundations and difficult drainage. This applies to expansive clays, bentonitic and other volcanic soils, and, where low-cost housing development is concerned, causes the unnecessary expenditure of many millions of pounds. In the African location of Nairobi alone, sub-soil conditions consist of 3 to 4 ft. of sticky black cotton clay soil overlying murram or soft rock. The practice has been to remove the black cotton for the whole plinth area of buildings and backfill with hardcore. This adds at least 5s. per sq. ft. to the cost of a house and has involved an extra expenditure of over half a million pounds sterling in low-cost housing to date.

Perhaps the most complicated task of survey flows from multi-racialism. In Kenya, as probably elsewhere, each race can be sub-divided into sects and tribes, frequently with highly individual social and religious structures. The problem is further complicated by the social changes taking place, the loosening of the ties of tribal custom and clan loyalties, the adoption and adaptation by eastern peoples of western ways of life. Add to this an extraordinarily rapid rate of expansion, and it will be seen that an accurate survey of existing conditions is not only nearly impossible, but, except as a record (of existing services, for example), of very little value, as it tends to be out of date by the time it is completed.

Anything which would speed up the collection of essential data would, I feel sure, be welcomed by planners, and I suggest that a standard form for overseas survey might be worked out, which would serve as a useful guide for regional and urban planning.

Conclusion

I have tried to throw some light on some of the problems of planning overseas. I will conclude by summarising the points which I feel need more study and which might well be pursued at future overseas summer schools.

1. The type of training and planner that is required overseas.

2. Regional and urban survey. What is required and how to get it.

3. Classification of the types of urban centres that go to make up the regional pattern.

4. Principles underlying planning of different classes of towns and villages.

5. Road standards.

6. Economic housing layouts and type plans for different income groups.

7. Layouts to suit transition from temporary to permanent houses, low standard to high-class roads, pit latrines to water-borne sanitation.

8. Detailed elements of urban planning.

9. Standardised town planning legislation, sufficiently comprehensive to meet the needs but not a perfectionist dream.

10. Standardised model building by-laws.

Many other questions needing investigation will suggest themselves to your minds: such matters as urban and rural industries, decentralisation, air, road and rail communications, open space standards, and many more. But the funda-

mental considerations to bear in mind when approaching overseas planning problems are, first and foremost, rapid social change and the need for the greatest flexibility to meet it; the need for geological survey to avoid the expensive consequences of ignorance of subsoil conditions; and potential economic development, which will determine future regional settlement.

Climate and Town Planning with Special Reference to Hot Climates

By J. K. PAGE, BA

IT is not easy to discuss the relation between climate and town planning, because there are, in fact, two inter-related factors to be considered, the effect of the town on the climate and the effect of the climate on the town. The climate is the same, once the town has been built. Besides, urban climates are complex, so it is essential to have some elementary knowledge of microclimatology to understand them.

I will first discuss the basic climatological objectives in town planning in different regions. The influence of climate on the comfort, health, and safety of the inhabitants, the relationship between climate and aesthetic appearance, the material effects of climate on buildings, roads, supply services and drainage systems all have to be considered. Orientation can affect, for example, the capital and running costs of a building, by increasing the air-conditioning load. I will then discuss ways of ameliorating the urban climatic environment in practice. Here I am talking about a relatively unexplored field. I also speak as an outsider to your profession knowing little about town planning. I realise therefore I am oversimplifying many of the issues, but I must do so to cover a wide subject in a short talk.

There are three aspects of the desirable environment for human welfare, health, safety and comfort. Priority in town planning must, I think, be given to safety.

The most important climatic hazards are:—

(1) High winds of hurricane force.
(2) Tornados.
(3) Tidal waves.
(4) Floods.

I feel it also right to mention *earthquakes* in this context.

Urban sites should be selected and laid out in a way to minimise the probable extent of any disaster that can be reasonably foreseen. Exposure, for example, will influence the amount of damage done by hurricanes. Buildings perched on hills may be carried away, while comparatively little damage from wind may result in the valleys. Hurricanes may also induce a tidal wave; thus low-lying sites near the sea may be very dangerous. Any confined stretches of water, like harbours, which tend to increase the wave height by funnelling, may be particularly hazardous.

Two types of flooding may be distinguished, flash flooding from a sudden downpour, and river flooding, from a period of extended rains over part or whole of the watershed. River floods are the particular hazard of valley sites. Where records are poor, information from local inhabitants about previous floods may often be helpful in selecting sites. Caution must, however, be exercised, particularly when a modification of run-off due to deforestation in the watershed area is taking place. Flash flooding is one of the additional hazards of hurricanes. Ten inches of rain or more may fall, and more damage may be done by water than by wind.

The advice of geologists should always be sought in earthquake areas. Well-defined fault lines may exist which should be avoided for building. The risk of tidal waves from earthquake shocks also requires consideration.

The infrequent occurrence of such events often makes it difficult to carry public opinion, if it is necessary to take any unpopular actions. Unfortunately, many of the most hazardous locations in tropical countries are the most pleasant under normal weather conditions; for example, the edge of sea, hill tops commanding a good view and a fine breeze, the banks of rivers, and so on. The majority of people are likely, therefore, to ignore warnings about the possibility of a catastrophe in selecting their building sites, unless such extreme conditions occur with considerable frequency. The siting of public buildings requires more careful consideration. Climatic safety should be given a high priority in locating buildings such as hospitals, which have an important role to play in the treatment of casualties.

The effects of an unfavourable location for a town on the health of its occupants are fortunately less serious than they were in the days before the methods for controlling diseases, like malaria, became known; nevertheless the cost of controlling disease is high.

Insect-Borne Disease

Control of disease spread by insects is primarily a problem of selecting sites away from their natural habitats, and then eliminating, as far as can be done, breeding areas within the urban region. Climate often plays an important role, e.g., rain making breeding pools for mosquitoes. The range of action of insects is also dependent on wind speed and direction. It is worth, therefore, considering the relation of the position of the natural insect habitats to the town itself, in terms of prevailing wind directions.

There are also the problems of water-borne diseases. Avoiding these is largely a matter of good public water supply, and proper drainage. Climate, however, may influence the type of drainage system that can be used. For example, certain types of pit latrine cannot be safely used in areas with a high water table, and so on. One of the serious secondary consequences of climatic catastrophes is that contamination of the public water supply may follow breakdown of the drainage system.

Criteria of comfort may be established for each of the human senses separately. Unfortunately, comfort requirements for different senses may be mutually conflicting when translated into terms of building. For example, it may be desirable to have windows wide open for thermal comfort, but tightly closed for acoustical comfort.

Improvement of the thermal environment should be a primary objective in hot climates. In hot climates, the temperature of the body is regulated by the evaporation of moisture. As the air becomes more nearly saturated it becomes more and more difficult to evaporate perspiration quickly enough. Very slight breezes under these conditions have a marked effect on comfort.

The primary thermal objective in humid areas is to keep the wind circulating. It is also desirable to use lightweight structures so that buildings cool quickly at night.

Desert Conditions

In desert areas, the sun is very fierce, the air very dry and during the day often very hot. Thus there is no difficulty in evaporating moisture from the skin. The primary thermal objectives in hot dry areas are to provide shade and to keep the air temperature down. This may be done by erecting heavy buildings of high heat capacity, closely spaced to provide mutual shading. Air movement is not important; in fact, the temperature of desert winds may be above skin temperature, and so these winds may heat the body instead of cooling it. Thus it may be a planning objective in such desert regions to reduce wind speeds in urban areas. The desert nights may be comparatively cold, and so it may be an advantage to have the urban area warmer than the countryside at night.

Intermediate between the hot-humid and hot-dry climates are the monsoon climates. In monsoon climates the compact layouts of the desert towns are unsuitable, because air movement is important during the rainy season. Heavy buildings and proper shading, however, are desirable for comfort during the hot season, and the courtyard plan has many advantages.

The basic requirements of different climates are well expressed in traditional urban layouts in different regions. One can in fact distinguish two fundamental tropical house types, the inward looking house, and the outward looking house, the house that primarily seeks to create shade and the house that primarily seeks to use the breeze.

Planning towns to ameliorate the environment in them is one thing, the cost of doing it is another. It is essential to consider the effects of climate on the capital and running costs of buildings, roads, etc. There is an important distinction between buildings in which the environment is regulated by mechanical means, e.g., heated or cooled, and buildings in which the natural environment is regulated entirely by natural means.

Factors like orientation influence the size of the mechanical equipment required, and hence capital and running cost.

The Builder

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AGGREGATES AND SAND

Delivered site in full lorry loads. Average of prices for Boroughs of Westminster, Paddington, Holborn and St. Pancras.

		£	s.	d.
Pit Ballast	per yd.	1	7	1
Pit Sand	,,	1	4	6
Washed Sand	,,	1	7	8
¾ in. Shingle	,,	1	4	0
¾ in. Broken Brick	,,	1	0	9
Pan Breeze	,,		10	9
Fine or Coarse Foamed Slag Aggregate	per ton	3	5	0

2 yds. of fine and 2.6 yds. of coarse per ton.

CEMENT, etc.

Including non-returnable jute sacks or paper bags.

		£	s.	d.
Best British Portland Cement. Standard Specification delivered Charing Cross area.				
6-ton loads and upwards, site	per ton	5	12	0
1 to 6 tons, site	,,	6	4	0
Rapid Hardening Cement in 6-ton loads and upwards to site	,,	6	2	6
1 to 6 tons do. site	,,	6	14	6
Aquacrete Water Repellent Cement. 32s. 6d. per ton on ordinary cement prices.				
Sulphate Resisting Cement. 32s. 6d. per ton on ordinary cement prices.				
Red, Buff or Khaki Colorcrete in 6-ton lots	,,	8	12	0
Other colours according to colour.				
In 4-ton lots from 310s. 0d. to 780s. 0d. per ton.				
White Portland Cement	,,	13	17	6
Under 1 ton	per cwt.		16	11
417 Cement (Ultra Rapid Hardening) in 6-ton lots and upwards	per ton	7	4	6
Super Cement (Waterproof), 32s. 6d. per ton above Portland Cement.				
Cullamix Tyrolean Finish, £11 10s. 0d. to £14 5s. 0d. (1-ton loads and upwards).				
Lightning and Ciment Fondu Brands High Aluminous cement, 6-ton lots and up	,,	15	14	6
Stourbridge Fireclay, 6-ton loads at Railway Depot, London	,,	6	17	6
Moler Mortar Powder for Flue Bricks (London sites)	per cwt.	1	10	0

BRICKS

		£	s.	d.
Full Loads.				
First Hard Stocks	per 1,000	13	14	6
Second Hard Stocks	,,	12	13	6
Mild Stocks (Kiln Burnt)	,,	9	4	0
Mild Stocks	,,	8	19	0
All loaded free into lorry at the works. The question of haulage is still very difficult and prices must be obtained from job to job.				
2½in. Nominal Fletton Bricks to sites in W.C. District Commons	,,	5	18	0
Cellular do.	,,	5	18	0
Keyed do.	,,	6	0	0
Rustics	,,	7	10	0
Cellular Rustics	,,	7	10	0
Single Bullnose Commons	,,	7	12	6
Sandfaced	,,	8	10	0
Tuscans	,,	9	5	0
Saxons	,,	9	13	0
Golden Buffs	,,	10	0	0
Dapple Light	,,	10	7	6
Best Blue Pressed Staffs (London Stations)	,,	29	15	6
,, Bullnose (London Stations)	,,	30	9	6
Blue Wire Cuts (London Stations)	,,	26	15	6
Midhurst Lime Bricks (London sites)	,,	10	15	6
Uxbridge Whites (London sites)	,,	10	2	0
Special Purpose Sandlime Bricks (London sites)	,,	7	18	6
2½ in. Best Stourbridge Fire Bricks (London Stations)	,,	29	9	9
3 in. do. (London Stations)	,,	35	7	9
2¾ in. Moler Flue Bricks (London sites)	,,	36	0	0
2¾ in. Machine-made Sandfaced Red Facings (London sites)	,,	15	18	6
2¾ in. Machine-made Multi Red Facings (London sites)	,,	16	3	6
2¾ in. Hand-made Sandfaced Red Facings (London sites)	,,	15	18	6
2⅝ in. Hand-made Sandfaced Multi-Colour Facings (London sites)	per 1,000	16	13	0
Hand-made Sandfaced Cherry Red Facings, Berkshire district (London sites)	,,	18	14	0
Hand-made Sandfaced Multi-Colour Facings, Berkshire district (London sites)	,,	18	14	0
Rubber Bricks for gauged arches (London sites)	,,	42	17	6
2⅝ in. Surrey Clamp Burnt Multi Stock Facings (London sites)	,,	14	4	0
2⅝ in. Surrey Kiln Burnt Multi Stock Facings (London sites)	,,	15	16	0
Glazed Bricks (London sites), White, Ivory, Brown— Stretchers	,,	64	0	0
Headers	,,	63	0	0
Quoins, Bullnose and 4½ in. Flats	,,	80	0	0
Double Stretchers	,,	85	0	0
Double Headers	,,	77	10	0
One side and two ends	,,	87	0	0
Two sides and one end	,,	89	10	0
Splays and Squints	,,	83	0	0

Cream and Buff £3 extra over White. Other colours, hard glaze, £8 10s. 0d. extra over White. All above prices plus 32½% for Best quality and plus 32½% less 10% for Second quality.

PARTITION SLABS, etc.

Delivered Central London Area. (W.C. District.)

	Minimum lorry loads		£	s.	d.
Hollow Clay Partition Blocks (Keyed)					
*2 in.	140 yds.	per yd. sup.		4	5
*2½ in.	140 yds.	,,		4	8
*3 in. (3 cavity)	120 yds.	,,		5	5
Building Blocks (Keyed)					
*3 in. (6 cavity)	110 yds.	,,		5	7
*4 in. (6 cavity)	95 yds.	,,		6	10
6 in. (8½ in. × 5⅝ in.)	1,250 blocks	per 1,000	26	18	0

*Half blocks at no extra charge.

			£	s.	d.
Clinker Concrete					
2 in.	100 yds.	per yd. sup.		3	9
2½ in.	85 yds.	,,		4	4
3 in.	75 yds.	,,		5	3
4 in.	55 yds.	,,		6	5
Cranham					
2 in.		,,		6	9
2½ in.		,,		7	5
3 in.		,,		8	9
4 in.		,,		10	9
4½ in. Load bearing quality		,,		11	10
Moler Partition Blocks					
2 in.	150 yds.	,,		15	0
2½ in.	120 yds.	,,		15	6
3 in.	100 yds.	,,		16	0
4 in.	90 yds.	,,		19	0
Lightweight Concrete Building and Partition Blocks of Various Sources of Manufacture					
2 in.	100 yds.	,,		5	10
2½ in.	80 yds.	,,		7	0
3 in.	65 yds.	,,		8	2
4 in.	50 yds.	,,		9	8
4½ in.	44 yds.	,,		10	4
6 in.	33 yds.	,,		13	10½
Thermalite-Ytong Partition Blocks					
2½ in.	144 yds.	,,		7	0
Thermalite-Ytong Loadbearing Insulating Blocks					
3 in.	120 yds.	,,		8	5
4 in.	90 yds.	,,		11	0
5 in.	72 yds.	,,		13	9
6 in.	60 yds.	,,		16	6
8½ in.	42 yds.	,,	1	3	8
Floor Blocks and Filler Tiles					
3 in. Floor Blocks 12 in. by 12 in. delivered in full lorry-loads		per 1,000	34	1	0
4 in. do.		,,	36	10	0
5 in. do.		,,	43	15	0
6 in. do.		,,	49	19	0
7 in. do.		,,	61	8	0
8 in. do.		,,	71	19	0
12″ × 3″ × ⅝″ Filler Tiles in multiples of 10 tiles		per 1,000 multiples	42	15	0
12″ × 4″ × ⅝″ do.	do.		73	15	0

STONEWARE DRAIN PIPES, etc.

The following are the percentages to be added to the Revised Standard List (Nov., 1956) prices delivered London Area.

Delivered ex Merchants Wharf or Depot or Manufacturers Works.

	Over 2 tons	Under 2 tons	Over 100 pieces Under 2 tons	Under 100 pieces Under 2 tons
Best Quality	−2½%	+15%		+22½%
BSS Best do.	+10% −2½%	+10% +15%	+10% +22½%	
Tested Quality	+37½% −2½%	+37½% +15%	+37½% +22½%	
BSS Tested do.	+47½% −2½%	+47½% +15%	+47½% +22½%	

STONEWARE DRAIN PIPES, etc.—*continued*

		£	s.	d.
3 in.	Land Drain Pipes (in 12 in. lengths) ... per 1,000	11	10	6
4 in.	do. ... ... ,,	15	3	6
6 in.	do. ... ... ,,	31	9	0
9 in.	do. ... ... ,,	59	13	0

DAMP COURSE

Hessian base bitumen 7 lb. per yd. sup. in 24 ft. rolls cut to wall widths in lots of £6 value and over delivered London area ... ... per yd. sup.		3		5½
Asbestos base ditto 7 lb. per yd. sup. do. do. ,,		5		3
Lead lined bitumen ditto 9½ lb. per yd. sup. do. ,,		12		2
18 in. × 9 in. British damp course slates ... ... per 1,000	43	8		11
14 in. × 9 in. do. do. ... ... ,,	32	8		2
9 in. × 9 in. do. do. ... ... ,,	18	18		9
18 in. × 4½ in. do. do. ... ... ,,	19	19		9
14 in. × 4½ in. do. do. ... ... ,,	15	18		3
9 in. × 4½ in. do. do. ... ... ,,	10	14		3

STONE

Bath Stone—				
Monks Park ... ... per ft. cube		9		4
St. Aldhelm Box Ground ... ... ,,		10		7
Delivered in railway trucks at South Lambeth B.R. Western Region.				
Doulting Stone Random Blocks. Delivered London area ,,		9		2
Beer Stone. Delivered London area ... ... ,,		8		9
Portland Stone—				
Brown Whitbed in random blocks, 20 ft. average delivered in railway trucks at Nine Elms, B.R. Southern Region ... ... ,,		8		8
Yorkshire Stone—Blue Robin Hood Quality. Delivered to site London in 6-ton lots.				
9 in. × 3 in. Rubbed, weathered, throated and stooled cills ... ... per ft. cube	4	1		9
12 in. × 6 in. do. do. ... ... ,,	2	18		3
12 in. × 3 in. Plain coping, twice throated ... ,,	2	5		3
12 in. × 3 in. Weathered and twice throated coping ,,	3	0		3
14 in. × 6 in. do. do. ... ... ,,	2	14		3
4½ in. × 9 in. Plinth rubbed on top and face ... ,,	2	8		6
3 in. sawn two sides Slabs, random sizes ... ... per ft. sup.		8		8
Templates and Cover Stones, 3 in., 4 in. and 6 in. thick, edges coped for rendered brickwork ... per ft. cube	1	9		9
do. do. fair one edge for fair faced brickwork ... ... ,,	1	15		3
Hard York—				
12 in. × 2 in. Square Steps, rubbed on top and edge per ft. run	10			6
14 in. × 3 in. Round-nosed Steps, rubbed on top and front ... ... per ft. cube	2	15		6
12 in. × 6 in. Plain Steps, rubbed top and front ,,	2	8		6
2 in. Rubbed and Jointed Paving, given sizes ... per ft. sup.		9		9
2 in. Sawn Paving, edges squared, in random sizes per yd. sup.	3	8		6

TILES AND PANTILES

Delivered London area by road in 6 tons or over per 1,000			
Machine-made Pantiles and French pattern Tiles from Lincolnshire district	29	19	0
Hand-made Pantiles Berkshire district	55	18	0
Hand-made Double Roman Bridgwater district	60	11	6
Hand-made 10½ × 6½ tiles Berkshire district	15	9	0
Machine-made 10½ × 6½ Staffordshire district	14	13	6
Hand-made Hip and Valley tiles per doz.	1	11	3
Machine-made Hip and Valley tiles do.	1	9	6
Concrete tiles 10½ × 6½	8	10	0
do. Interlocking (49S)	19	16	6

NOTE.—Breakage in transit, purchasers' responsibility.

SLATES

First-quality Slates from Penrhyn or Portmadoc, carriage paid in full truck loads to London Rate Station. Per 1,000 actual.

24 × 12	143	15	10
22 × 12	116	17	4
22 × 11	105	10	10
20 × 12	99	0	1
20 × 10	94	16	9
18 × 10	65	16	9
18 × 9	57	14	0
16 × 10	51	17	0
16 × 8	40	11	9

NOTE.—Breakage in transit, purchasers' responsibility.

TIMBER

Softwood—				
Joinery quality ... ... Ex Wharf per standard	£115 to £140			
Carcassing quality ... do. ,,	£97 to £102			
1 in. Tongued and Grooved Flooring do. ,,	£110	0	0	
Hardwood—				
Mahogany—African S.E. do. per ft. cube	1	10	0	
do. Honduras do. do. ,,	3	5	0	
Oak European do. do. ,,	2	5	0	
do. Japanese do. do. ,,	2	10	0	
do. English Logs sawn do. ,,	2	0	0	
Teak 8 in. average S.E. do. ,,	3	17	6	
Walnut African Logs sawn do. ,,	1	5	0	

DOORS (in Lots I-11)

Delivered London area	£	s.	d.
1½ in. 4 Horizontal Panel. Pattern 4 in. deal			
2 ft. 0 in. × 6 ft. 6 in. ... ... each	1	16	0
2 ft. 3 in. × 6 ft. 6 in. ... ... ,,	1	17	6
2 ft. 6 in. × 6 ft. 6 in. ... ... ,,	1	18	6
2 ft. 9 in. × 6 ft. 6 in. ... ... ,,	2	0	6
2 in. do. but top panel open. Pattern 4 × G in deal			
2 ft. 6 in. × 6 ft. 6 in. ... ... ,,	2	9	0
2 ft. 9 in. × 6 ft. 6 in. ... ... ,,	2	11	6
2 in. 2 Panel top panel open. Pattern 2 × G in deal			
2 ft. 6 in. × 6 ft. 6 in. ... ... ,,	2	3	0
2 ft. 9 in. × 6 ft. 6 in. ... ... ,,	2	5	0

SUNDRIES

Delivered London area.			
1 in. Wood Wool Slabs 6 ft. 0 in. × 2 ft. 0 in. in quantities of 1 ton (89 yds. to 1 ton) ... ... per yd.	6		2
1½ in. do. (67 yds. to 1 ton) ... ... ,,	8		0
2 in. do. (52 yds. to 1 ton) ... ... ,,	9		9½
2½ in. do. (45 yds. to 1 ton) ... ... ,,	11		3
3 in. do. (39 yds. to 1 ton) ... ... ,,	12		7½
Quantities under 1 ton add 1d. per ½ in. of thickness.			
½ in. imported insulation Board, quantities over 5,000 sq. ft. per 100 sq. ft.	2	2	6
¼ in. Hardboard do. ... ... ,,	2	1	6
5/16 in. do. do. ... ... ,,	3	2	6
⅜ in. Asbestos Flat Building Sheets ... ... per yd. sup.	4		3
½ in. do. ... ... ,,	5		9½
Roofing Felt 1-ply ... ... ,,	1		9
do. 2-ply ... ... ,,	2		2½
Best Scotch Glue in slabs ... ... per ½ cwt.	5	0	0
do. pearl ... ... ,,	5	5	0
Croid Glue ... ... 28 lb.	2	6	0
Cut Nails 3 in. (1-ton lots) ... ... per ton	73	0	0
do. 4 in. and up (1-ton lots) ... ... ,,	69	10	0
Wire Nails 3 in. (4-cwt. lots) ... ... per cwt.	3	13	11
do. 4 in. and up (4-cwt. lots) ... ... ,,	3	13	3

METALS

STEEL JOISTS, ETC.

Basis Joists—			
6 in. × 5 in., 8 in. × 5 in., 8 in. × 6 in., 10 in. × 6 in., 12 in. × 6 in. plain cut to lengths delivered London area ... ... per ton	51	2	6
Extra for sizes			
3 in. × 1⅛ in. 4 in. × 1¾ in. ... ... ,,	3	10	0
3 in. × 3 in. ... ... ,,	2	10	0
4 in. × 3 in. ... ... ,,	2	5	0
10 in. × 4⅝ in. ... ... ,,	1	10	0
5 in. × 2⅜ in. 5 in. × 3 in. ... ... ,,	1	15	0
4⅜ in. × 1⅜ in. ... ... ,,	3	5	0
5 in. × 4⅛ in. 7 in. × 3½ in. 13 in. × 5 in. ,,		15	0
6 in. × 3 in. 24 in. × 7⅛ in. ... ... ,,	2	0	0
6 in. × 4⅛ in. 7 in. × 4 in. 8 in. × 4 in. ,,	1	5	0
9 in. × 4 in. 10 in. × 5 in.			
12 in. × 5 in. 22 in. × 7 in. ... ... ,,	1	0	0
9 in. × 7 in. 10 in. × 8 in. 12 in. × 8 in.			
14 in. × 5⅛ in. 14 in. × 6 in. 14 in. × 8 in.			
15 in. × 5 in. 15 in. × 6 in. 16 in. × 6 in. ,,		10	0
16 in. × 8 in. 18 in. × 6 in. 18 in. × 7 in.			
18 in. × 8 in. 20 in. × 6½ in. 20 in. × 7½ in.			
Steel angles average price ... ... ,,	53	2	6
Steel tees average price ... ... ,,	54	2	6
Fabricated work delivered London—			
R.S. Joists cut and fitted ... ... ,,	70	12	6
Compound girders ... ... ,,	77	0	0
Stanchions ... ... ,,	82	10	0
Compound stanchions ... ... ,,	87	0	0
In Roof Work—Trusses and Purlins ... ... ,,	100	12	6
Average prices not for awkward work.			
Angle cleats and ⅝ in., ¾ in. and ⅞ in. bolts average price London area ... ... per cwt.	5	19	0

FERRO-CONCRETE BARS

Mild Steel Ferro-Concrete bars British manufacture to BSS785 ex London Stock ⅜ in. diam., and upwards ... ... per ton	49	17	6
¼ in. diam. ... ... ,, extra	8	12	6
5/16 in. do. ... ... ,,	6	12	6
⅜ in. do. ... ... ,,	4	12	6
½ in. do. ... ... ,,	3	2	6

MILD STEEL TUBES

Tubes to BSS1387 and Fittings. List prices and following discounts:

Galvanised Tube—	Under 1 ton	Over 1 ton	W.I. Fittings	Malleable Fittings
Class A	+24½ %	+21 %	Light +48 %	Malleable List
Class B	+37 %	+33⅓ %	Heavy +55½ %	−20½ %+40 %
Class C	+57 %	+53¾ %		
Black—				
Class A	+ 4½ %	+ 1¼ %	Light +35⅓ %	Malleable List
Class B	+18½ %	+15 %	Heavy +43¾ %	− 20½ %
Class C	+34½ %	+31¼ %		

C.I. HALF-ROUND GUTTERS

Delivered London per yd. in 6-ft. lengths

	Gutters	Nozzles	Stop Ends
3 in.	4/0½	3/7	1/–
3½ in.	4/4½	3/11	1/–
4 in.	5/8	4/5	1/7
4½ in.	6/3	4/11	1/10
5 in.	6/11½	5/4	2/2

METALS—*continued*

C.I.O.G. Gutters

	Gutters	Nozzle	Stop Ends
3 in.	5/2½	4/8	1/3
3½ in.	5/10	4/8	1/7
4 in.	6/5	4/11	1/10
4½ in.	6/11½	5/8	2/2
5 in.	7/7½	6/5	2/6

C.I. Rain-water Pipes

Per yd. in 6-ft. lengths	Pipe	Bends	Branches
2 in.	8/7½	4/5	6/4
2½ in.	8/7½	4/11	8/6
3 in.	9/8½	6/2	9/2
3½ in.	11/0½	7/3	11/-
4 in.	12/9	8/9	13/1

L.C.C. Coated Soil Pipes

2 in.	9/8½	7/7	9/2
2½ in.	10/4	8/5	11/5
3 in.	11/7	9/2	13/7
3½ in.	12/11½	11/5	15/10
4 in.	14/9	12/9	18/8

Above prices for gutters, rain-water and soil pipes for under 5 cwt. lots only. Lots over 5 cwt. see List No. 3300 dated February 1, 1955, plus 22½% and tonnage allowance. 4-ton lots 5 per cent., 2-ton lots 2½ per cent.

L.C.C. Coated Drain Pipes

In 9-fts.

	cwt.	qt.	lb.	per yd.	Bends	Branches
4 in.	1	1	17	33/6	23/3	41/3
6 in.	2	0	1	49/2	62/-	99/-

Asbestos Rain-water Pipes and Fittings

All less 17½ per cent. discount.

		2 in.	2½ in.	3 in.	4 in.
Pipes 6-ft. lengths	per yd.	4/3	4/6½	5/6	7/3½
Shoes	each	2/9	3/-	3/7	4/10
Single Branches	,,	4/4	5/1	6/1	8/6
Bends square or obtuse	,,	3/-	3/4	4/4	6/1
Swan Necks 4½ in. proj.	,,	3/4	4/4	4/10	6/9
,, 6 in. ,,	,,	3/7	4/4	5/5	7/3

Asbestos O.G. Gutters and Fittings

		4 in.	4½ in.	5 in.	6 in.
Gutters 6 ft. lengths	per yd.	4/1	4/5½	5/4	6/4½
Drop ends	each	3/3	3/9	4/5	5/2
Stop ends	,,	1/-	1/1	1/2	1/4
Angles	,,	3/4	3/10	4/8	5/5
Nozzles	,,	3/3	3/9	4/5	5/2
Union Clips	,,	1/7	1/11	2/4	2/8

Asbestos Half-Round Gutters and Fittings

		3 in.	4 in.	4½ in.	5 in.	6 in.
Gutters 6 ft. lengths...	per yd.	2/10	3/4½	3/5½	4/1	5/8
Drop ends	each	2/4	2/9	3/-	3/4	4/10
Stop ends	,,	-/11	1/-	1/1	1/2	1/4
Angles	,,	2/8	3/-	3/4	3/7	4/10
Nozzles	,,	2/4	2/9	3/-	3/4	4/10
Union Clips	,,	1/2	1/3	1/4	1/6	2/3

	Per ton basis in London £ s. d.
Iron—Staffordshire Crown Merchant Quality	49 7 6
Mild Steel Bars	47 12 6
Mild Steel Hoops	44 2 6

	Ex Merchant's Stock per ton Two-ton lots £ s. d.
Soft Sheets C.R. and C.A.—	
20 gauge	62 14 6
24 gauge	65 4 6
26 gauge	68 4 6
Galvanised Corrugated sheets 6 ft. to 9 ft.—	
20 gauge	71 12 0
24 gauge	75 2 0
26 gauge	80 7 0
Galvanised flat sheets C.R. and C.A.—	
20 gauge	73 2 0
24 gauge	76 12 0
26 gauge	81 17 0

ALUMINIUM AND ALUMINIUM ALLOYS

(Base prices)		£ s. d.
Sheet BS 1740 S1C 18 SWG (36 in. wide)	per lb.	2 11
Sheet BS 1470 NS3 Utility 18 SWG (36 in. wide)	,,	2 8½
Coiled strip BS 1470 S1C 18 SWG (24 in. wide)	,,	2 10
Coiled strip BS 1470 NS 3 Utility 18 SWG (24 in. wide)	,,	2 8
Coiled strip for flashing 99.7% purity 22 SWG (12 in. wide)	,,	3 0½
Corrugated sheet BS 1470 NS 3 Utility Circular Profile 8 ft. × 32 in. × 20 SWG	per sheet	1 12 6
Corrugated sheet BS 1470 NS 3 Utility Industrial Profile 8 ft. × 31½ in. × 20 SWG.	,,	1 18 1
Corrugated sheet BS 1470 NS 3 Utility Mansard Profile 8 ft. × 31½ in. × 20 SWG	,,	1 11 7
Extruded section BS 1476 E1C simple moulding	per lb.	2 9
Extruded section BS 1476 E1C 1 in. diam. round	,,	2 6½
Extruded section BS 1476 HE1WP simple angle	,,	3 0
Extruded section BS 1476 HE10WP 1 in. diam. round	,,	2 11
Tubing BS 1471 T1C 1½ in. O/D × 20 SWG...	,,	4 4½
Tubing BS 1471 HT10WP 1½ in. O/D × SWG	,,	5 8

PLUMBERS' BRASS WORK, etc.

Delivered in London area.

M.O.H.

All per doz.	½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
Screwdown bib cocks Crutch head for iron	87/-	128/8				
Toilet bib cocks for iron	109/-	158/5				
Screwdown stop cocks for iron	66/-	95/9	188/-	363/-	522/6	917/6
do. with two unions for lead	89/-	132/-	234/4	472/-	623/6	1389/5
Double nut boiler screws	18/8	26/5	47/6	48/6	67/-	93/6
Heavy Croydon ball valves	77/-	193/6	312/5	568/8	734/10	—
Plumbers' union brass lead to iron	19/6	23/6	38/6	52/10	70/6	165/-
	1¼ in.	1½ in.	2 in.	3 in.	3½ in.	4 in.
Caps and screws	33/-	40/8	59/6	92/5	118/10	155/3
Brass sleeves		31/11	31/11	56/2	74/10	91/5
	1½×6 lb.		1½×6 lb.		2×7 lb.	3×7 lb.
Lead P. trap with brass cleaning screws	68/6		85/6		137/-	234/-
Lead S. trap do.	83/-		102/6		168/3	302/-

Solder	s. d.
Plumbers'	1 cwt. lots 332/- 14 lb. lots per lb. 3 6
Tinmen's	,, ,, 408/- ,, ,, 4 1
Blow pipe	,, ,, 411/- ,, ,, 4 3

Copper Tubes and Sheets

Copper tubes BSS 659/1944 on the basic price of 22d. per lb. plus gauge and manufacturing extras as follows. Minimum quantities, 3 cwt.

	Extra d.	Total per lb. d.	approx per ft. d.
⅜ in. × 19 gauge	14¼	36½	10
½ in. × 19 ,,	13	35	13½
1 in. × 18 ,,	11½	33½	20½
1¼ in. × 18 ,,	10⅞	32⅞	25
1½ in. × 18 ,,	10⅝	32⅝	30
2 in. × 17 ,,	12½	24½	48½

Rolled Copper sheets up to 48 in. wide, basic price plus gauge and manufacturing extras ... ... per ton £217 0 0

Zinc

		£ s. d.
Sheet Zinc	10 gauge (25 SWG) 5 cwt. lots upwards per cwt.	7 7 0
do.	12 gauge (23 SWG) ,, ,,	7 5 9
do.	14 gauge (21 SWG) ,, ,,	7 4 6

Brass Tubes

Brass tubes basic price, plus gauge and manufacturing extras ... ... per lb. 1 6½

LEAD SHEET AND PIPES

Basis selling price in minimum one-ton delivery to one address in London or Home Counties.

		£ s. d.
Lead Sheet, English, 3½ lb. substance and upwards	per ton	130 5 0
Lead Water Pipe in coils	,,	132 10 0
Lead Soil Pipe 10 ft. or over 2 in. to 4 in. dia.	,,	134 0 0
,, over 4 in. dia.	,,	136 0 0
Lead Gas or Untinned Compo pipe	,,	134 0 0

Extras over Basis for quantities under 1 ton

		£ s. d.
5 cwt. and under 1 ton	per cwt.	2 0
3 cwt. do. 5 cwt.	,,	4 0
1 cwt. do. 3 cwt.	,,	6 0

Smaller quantities than 1 cwt. priced specially.

Supplying sheet lead and lead pipe to less than basis weights and cutting to sizes less than basis charged extra according to current trade schedule.

Allowance for Old Lead, collected £80 15s. 0d. per ton weighed at buyer's works.

PLASTER, etc.

		£ s. d.
Coarse Pink in 1-ton loads and over Delivered on Site	per ton	8 9 6
do. White do. do.	,,	8 19 0
Siripite Coarse do. do.	,,	8 10 6
do. Fine do. do.	,,	8 18 6
Blue Lias Lime in 6-ton loads	,,	6 14 6
Hydrated Lime (Grey) do.	,,	5 17 6
do. (White) do.	,,	6 5 0
Lump Lime (Grey) do.	,,	5 7 0
do. (White) do.	,,	5 14 6
White Keen's or Parian Cement in 1-ton loads	,,	12 4 6
Pink Keen's or Parian Cement in 1-ton loads	,,	11 19 3
Granite Chips in 6-ton loads	,,	2 8 6
Hair	per cwt.	4 17 6
Gypsum Plaster Lath or Base Board ⅜ in. thick 600 yds. and over in one delivery. Delivered site	per yd.	2 5
1,200 yds.	,,	2 4
Do. Insulating do. ½ in. thick 600 yds. and over in one delivery. Delivered site	,,	3 0
1,200 yds.	,,	2 11½
Gypsum Plaster Wall Boards, 3 and 4 ft. wide, 6 to 12 ft., ⅜ in. thick, 600 yds. and over in one delivery Delivered site	,,	2 8
1,200 yds.	,,	2 7
Do. Insulating do. ½ in. thick 600 yds. and over in one delivery. Delivered site	,,	3 3
1,200 yds.	,,	3 2½

PAINT AND DISTEMPER

		£ s. d.
Delivered London area		
Ceiling Distemper	per cwt.	1 7 6
Washable Distemper	„	5 5 0
Gloss Paint	per gal.	2 12 0
Snowcem cement paint (in 1 cwt. drums)	per cwt.	3 11 0
LEAD PRODUCTS AND OILS		
Ground White Lead, in 1 cwt. kegs	per cwt.	8 18 3
Genuine White Lead Paint, 1-19 gal. lots in 1 gal. tins	per gal.	3 9 6
Genuine Red Lead, Dry, 1 cwt. keg.	per cwt.	6 9 6
Genuine Linseed Oil Putty, 1 cwt. keg	„	2 14 0
Size XD quality 28 lb.	per tin	9 0
Raw Linseed Oil (5 gal.) drums extra	per gal.	18 6
Boiled Linseed Oil (5 gal.) do.	„	19 0
SUNDRIES		
Turpentine substitute (5 gal.) drums extra	„	5 3½
do. do. (40 gal.) do. do.	„	4 7½
Solignum, Brown (5 gal. cans) Exterior	„	8 4
Creosote (40 gal. barrels)	„	2 3
Paste Powder (1 lb. packets)	per lb.	1 10
White Lining Paper	per piece	1 2½

VARNISHES, etc.

		£ s. d.
Delivered London area		
Oak Varnish, Outside or Inside	per gal.	2 0 0
Oak Pale Copal do.	„	2 0 0
Hard Drying Oak for Inside	„	2 5 0
Crystal Paper Varnish do.	„	2 8 0
Eggshell Flat Varnish do.	„	2 6 0
Finest Carriage Varnish	„	2 7 0
Front Door Varnish	„	2 4 0
Japan Gold Size	„	1 18 0
Black Japan	„	1 16 0
Brunswick Black	„	1 12 0
Berlin Black	„	1 10 0
Terebene	„	1 17 0
Knotting (1 gal. bottles free)...	„	2 8 0
French and Brush Polish (do.)	„	2 2 0

GLASS

	per ft. super s. d.
Delivered London area	
18 oz. Sheet Glass Ordinary Glazing Quality-Cut Sizes	7½
24 oz. „ „ „ „ „ „	10½
26 oz. „ „ „ „ „ „	1 0½
32 oz. „ „ „ „ „ „	1 4½
⅛ in. Rolled Plate	11½
⅛ in. Rolled and Rough Cast	1 3
¼ in. „ „ „ „	1 3½

	per ft. super s. d.
⅛ in. Figured Rolled and Cathedral, Standard patterns : White Group 1	11½
do. Group 2	1 3½
do. Standard Tints	1 10
do. Special Tints	6 8
⅛ in. Pinstripe, Hammerstripe, Reeded, Reedlyte and Luminating Group 3	1 4½
¼ in. Wired Cast	1 7½
¼ in. Georgian Wired Cast...	1 7½
Hollow Glass Blocks—	**Each**
P.B.2. 5¾ × 5¾ × 3⅝ in.	3 3
P.B.3 7¼ × 7¼ × 3⅝ in.	5 0
P.B.32 7¼ × 7¼ × 3⅞ in.	5 0
Radiused Corner Blocks to match up with—	
P.B.2	6 0
P.B.3	7 6
P.B.32	7 6
¼ in. Polished Plate Glass, G.G. Quality—	**Per ft. super**
In plates not exceeding 2 ft. sup.	4 3
„ „ „ 5 ft. sup.	5 3
„ „ „ 45 ft. sup.	6 3
„ „ „ 100 ft. sup.	6 9
¼ in. Polished Plate, extra sizes, *i.e.*, plates exceeding 100 ft. sup. or 160 in. one way or 96 in. both ways. G.G. quality—Not exceeding 135 ft. sup. or 250 in. one way or 135 in. both ways	10 0
Not exceeding 180 ft. sup. or ditto	13 4
Plates exceeding 180 ft. sup. prices on application.	
Substances other than ¼ in. Polished Plate at Special Prices.	

Quantity Tariff—Sheet and Sundry Glass.

The following prices apply to minimum quantities of one size and one pattern delivered by the manufacturer to one site at one time.

Description of Glass	Minimum quantity	Per ft. sup. s. d.
18 oz. sheet O.Q.	3,000	5½
24 oz. „ „	2,000	7½
26 oz. „ „	2,000	9½
32 oz. „ „	2,000	1 1½
⅛ in. Rolled Plate	1,000	8½
⅛ in. Figured Rolled and Cathedral Standard Patterns, White Group 1	1,000	8½
do. Group 2	1,000	10¼
⅛ in. Pinstripe, Hammerstripe, Reeded, Luminating and Spotlyte Group 3	1,000	11⅞
3/16 in. and ¼ in. Rolled Plate or Rough Cast ...	2,000	1 0
¼ in. Wired Cast, Hexagonal	2,000	1 2
¼ in. Georgian Wired Cast	2,000	1 2½

The Builder

CURRENT RATES OF WAGES

AS FROM MAY 27, 1957. (Every endeavour is made to ensure accuracy but we cannot be responsible for errors.)

KEY TO SCHEDULE OF GRADE RATES.

Grade Classification.	A	A1
Craftsmen	4/6	4/5½
Labourers	3/11½	3/11

Town.	*Grade.*
Aberavon	A
Aberdare	A
Abergavenny	A
Abingdon	A1
Accrington	A
Addlestone	A
Afan Valley	A
Aldeburgh	A1
Aldershot District	A1
Alfreton UD	A
Alnwick UD	A
Altrincham	A
Amble	A
Ambleside	A1
Amersham	A1
Ammanford	A
Andover	A1
Anglesey, Isle of	A1
Ardingly	A1
Arundel	A1
Ascot	A1
Ashbourne RD	A1
Ashbourne UD	A1
Ashby-de-la-Zouch UD	A
Ashby Woulds UD	A
Ashford (Kent)	A1
Ashford (Middlesex)	A
Ashington UD	A
Ashtead	A
Ashton-under-Lyne	A
Aspatria and Brayton	A1
Atherstone RD	A
Attleborough	A1
Axminster	A1
Aylesbury	A1
Aylsham	A1
Bagshot	A1
Bakewell UD	A1
Banbury	A1
Bangor	A1
Barnard Castle UD	A
Barnoldswick UD	A
Barnsley CB	A
Barnstaple	A1
Barrow-in-Furness	A
Barrow-upon-Soar RD (part Thrussington)	A1
Barry	A
Basford RD (exc. Willough-by-on-the-Wolds A1)	A
Basingstoke	A1
Bath	A
Batley MB	A
Baxterley	A1
Beaconsfield District	A
Bearl	A
Beccles	A1
Bedale RD	A
Bedford	A
Bedlington	A
Bedlingtonshire UD	A
Bedwas	A
Beeston & Stapleford UD	A
Belper UD	A
Belton	A
Berkhamsted	A
Berrington	A1
Berwick Borough	A
Beverley MB	A
Bewdley MB	A
Bexhill-on-Sea	A1
Bideford	A1
Biggleswade	A1
Billericay	A
Billing	A
Billingham UD	A
Bilsthorpe	A
Bilston MB	A
Birchington	A1
Birkenhead	*
Birmingham CB	†A
Bishop Auckland UD	A
Bishop's Stortford	A
Bishops Castle MB	A1
Bispham	A
Blackburn	A
Blackpool	A
Blackwell RD	A
Blandford	A1
Blaydon UD	A
Blidworth	A
Blyth B.	A
Bodmin	A1
Bognor Regis	A1
Boldon UD	A
Bolsover UD	A
Bolton	A
Boston MB	A
Bourne End	A
Bournemouth District	A
Brackley MB	A1
Bracknell	A1
Bradford CB	A
Bradford-on-Avon	A1
Braintree	A1
Brandon & Byshottles UD	A
Brecon—Borough of	A1
Breconshire, County of ...	‡A1
Brent Knoll	A1
Brentwood	A
Bridgend	A
Bridlington MB	A
Bridlington RD	A1
Bridgnorth MB	A1
Bridgnorth RD	A1
Bridgwater	A1
Brierfield	A
Brighouse MB	A
Brighton & Hove	A
Bristol District	A
Broadstairs	A1
Bromsgrove UD	A
Broughton, Flint	A
Buckfastleigh	A1
Buckingham	A1
Buckley	A
Bungay	A1
Burnham-on-Crouch	A1
Burnham-on-Sea	A1
Burnley	A
Burton-on-Trent C.B.	A
Bury	A
Bury St. Edmunds	A1
Buxton	A
Byfleet	A1
Caernarvon	A1
Caernarvonshire, Cnty. of	‡A1
Calder Valley	A
Camberley District	A1
Cambridge	A
Cannock UD	A
Canterbury	A1
Cardiff	A
Cardiganshire, County of	‡A1
Carlisle	A

CURRENT RATES OF WAGES—Continued

Town.	Grade.
Carlton UD	A
Carmarthen—Borough of	A1
Carmarthenshire, Cnty of ‡	A1
Carnforth	A
Castleford UD	A
Caterham	A
Chapel-en-le-Frith	A
Chard	A1
Charmy Down	A
Chatham District	A
Chatteris	A1
Cheadle (Staffs) RD	A
Chelmsford	A
Cheltenham	A
Chepstow	A
Chertsey	A
Chester	A
Chester-le-Street UD	A
Chesterfield MB	A
Chesterfield RD	A
Chichester	A1
Chipping Norton	A1
Chipping Sodbury	A1
Chippenham (inc. Chippenham Within and Hardenhuish)	A1
Chorley	A
Cirencester	A1
Clacton	A1
Clay Cross UD	A
Cleethorpes MB	A
Clevedon	A1
Cleveleys	A
Clitheroe	A
Coalville UD	A
Cobham (Surrey)	A
Colchester	A
Colne	A
Colwyn Bay	A1
Congleton	A1
Consett UD	A
Conway	A1
Corby UD	A
Cornwall, County of	‡A1
Corsham District	A
Coventry CB	A
Cranbrook	A1
Cranleigh	A1
Cranwell Aerodrome Site	A
Crawley	A1
Crewe	A
Crewkerne	A1
Cromer	A1
Crook and Willington UD	A
Crowborough	A1
Cuckfield	A1
Cwmbran	A
Dalton-in-Furness	A
Darlington CB	A
Dartmouth	A1
Darwen	A
Daventry MB	A1
Deal	A1
Denbigh Town	A1
Derby CB	A
Devizes	A1
Devon, County of	‡A1
Dewsbury CB	A
Didcot	A1
Diss	A1
Doncaster CB	A
Dorchester	A1
Dorking	A
Dorset, County of	A1
Dover	A1
Dovercourt	A
Driffield UD	A1
Drigg & Carleton	A
Droitwich MB	A
Dudley CB	A
Dunstable	A
Durham B	A
Eastbourne	A
E. Glam. & Mon. Val.	A
East Grinstead District	A1
East Kesteven RD.	A1
East Retford MB.	A
Eastwood (Notts) UD	A
Ebbw Vale & District	A
Edenbridge	A1
Ely	A1
Epping	A
Evesham MB	A1
Exeter	A
Exmouth	A1
Fakenham	A1
Falmouth	A1
Fareham	A
Faversham	A1
Felixstowe	A1
Filey UD	A
Fleetwood	A
Flint MB	A
Folkestone	A1
Frinton	A1
Frome	A1
Gainsborough UD	A
Gateshead CB	A
Gillingham (Dorset)	A1
Gillingham (Kent)	A
Glastonbury & Street	A1
Glossop	A
Gloucester	A
Gloucestershire, Cnty. of	‡A1
Godalming	A1
Goole, MB	A
Goole RD (part—Airmyn, Hook)	A
Gosport	A
Grantham MB	A
Gravesend	A
Grays Thurrock UD Area	A
Great Yarmouth	A
Grimsby CB	A
Grimsby RD (part)	A1
Guildford District	A1
Halesowen MB	A
Halifax CB	A
Halstead	A1
Haresfield	A1
Harlow	A
Harpenden	A
Harrogate MB	A
Hartlepool B	A
Harwell	A1
Harwich	A
Haslemere	A1
Hastings	A1
Hatfield (Herts)	A
Havant	A
Haywards Heath	A1
Heanor UD	A
Hemel Hempstead	A
Henley-on-Thames	A1
Hereford	A1
Herefordshire, Cnty. of	‡A1
Herne Bay	A1
Hertford	A
Hexham RD	A
Hexham UD	A
Heysham	A
Heywood	A
Higham Ferrers MB	A
High Wycombe	A
Hinckley UD	A
Hitchin	A
Hoddesdon	A
Holywell	A
Horley	A1
Horncastle UD	A1
Horsham	A1
Horwich	A
Huddersfield CB	A
Hull	A
Hunstanton	A1
Huntington (Staffs)	A
Ilfracombe	A1
Ilkeston MB.	A
Ilkley UD	A
Ipswich	A
Isle of Sheppey	A1
Isle of Thanet	A1
Isle of Wight	A1
Jarrow B	A
Keighley MB	A
Kendal	A
Kenilworth UD	A
Kettering MB	A
Keynsham	A
Kidderminster MB.	A
Kingskerswell	A1
King's Lynn	A1
Kingsteignton	A1
Kirkham	A
Knaresborough UD	A
Knutsford	A
Lancaster	A
Leamington MB.	A
Leatherhead	A
Leeds CB	A
Leek UD	A
Leicester CB	A
Leighton Buzzard	A1
Leiston	A1
Leominster	A1
Letchworth	A
Lewes	A1
Lichfield MB	A
Lincoln CB	A
Liskeard	A1
Littlehampton	A1
Liverpool	*
Llandudno	A1
Llanelly (incl. Llanelly RD)	A
Llanfairfechan	A1
Llangoilen	A1
London	*
Long Eaton	A
Looe	A1
Loughborough MB	A
Louth MB	A1
Lowestoft	A
Loxton	A1
Ludlow MB	A1
Ludlow RD	A1
Luton	A
Lyme Regis	A1
Lyneham (Devon)	A1
Lytham	A
Macclesfield	A
Maidenhead	A
Maidstone	A
Maldon (Essex)	A1
Maltby UD	A
Malton UD	A1
Malvern UD	A1
Manchester	A
Manningtree	A1
Mansfield MB	A
March	A1
Margate	A1
Market Harborough RD	A1
Market Harborough UD	A
Market Rasen UD.	A1
Martock	A1
Maryport	A
Matlock UD	A
Melksham	A1
Melton Mowbray UD	A1
Merionethshire	A1
Merthyr	A
Mexborough UD	A
Middlesbrough CB	A
Middleton	A
Middlewich	A
Mildenhall	A1
Milford Haven UD	A1
Minehead	A1
Monmouth—Borough of	A1
Monmouthshire.	A1
Morecambe	A
Moreton Valence	A1
Morley	A
Morpeth B	A
Morpeth RD	A
Mundesley	A1
Nantwich	A
Neath & Valley	A
Nelson	A
Newark MB	A
Newbury	A1
Newcastle-on-Tyne CB.	A
Newcastle-under-Lyme	A
New Forest District	A1
Newmarket	A1
Newport, Mon.	A
Newport Pagnell	A1
Newquay	A1
Newton Abbot	A1
Normanton UD	A
Northallerton District	A
Northallerton UD	A
Northampton CB	A
North Shields	A
North Walsham	A1
Northwich	A
Norton Radstock	A1
Norwich	A
Nottingham CB	A
Nuneaton MB	A
Oakham RD	A1
Oakham UD	A1
Okehampton	A1
Oldham	A
Ongar	A
Ormskirk	A
Ossett & Horbury	A
Oswestry	A1
Oundle UD	A1
Oxford	A
Oxted	A1
Padstow	A1
Paignton	A1
Par	A1
Pembrokeshire (except Milford Haven)	A1
Penmaenmawr	A1
Penrith UD	A1
Penzance	A1
Peterborough, Soke of (Eastern Regional portion)	A1
Petersfield	A1
Pickering	A1
Plymouth	A
Pontefract MB	A
Pontypool & District	A
Pontypridd District	A
Porthcawl	A
Portishead	A
Portland Bill	A1
Portsmouth	A
Port Talbot	A
Preston	A
Princetown	A1
Pudsey MB	A
Pulborough	A1
Radnorshire, County of	‡A1
Ramsgate	A1
Raunds UD	A
Rayleigh	A
Reading	A
Redcar B	A
Redditch UD	A
Redhill & Reigate	A
Rhondda Valley	A
Richmond B (Yorks)	A
Ripon MB	A1
Rochdale	A
Rochester	A
Ross-on-Wye	A1
Rossendale Valley	A
Rotherham CB	A
Royston	A1
Rugby MB	A
Rugeley UD	A1
Rushden UD	A
Saffron Walden	A1
St. Albans	A
St. Austell	A1
St. Helens	A
St. Neots	A1
Salisbury City	A1
Salisbury Plain	A1
Sandy	A1
Sawbridgeworth	A
Saxmundham	A1
Scarborough MB.	A
Scunthorpe MB	A
Seaford & Newhaven	A1
Selby UD	A
Sevenoaks	A
Shaftesbury	A1
Sheerness	A1
Sheffield MB	A
Shepton Mallet	A1
Sherborne	A1
Shipley	A
Shoeburyness	A
Shoreham	A
Shrewsbury MB	A
Sirhowy Valleys	A
Sittingbourne	A1
Skegness UD	A1
Skipton UD	A
Sleaford UD	A1
Slough, Windsor & Eton District	A
Smethwick CB	†A
Snettisham	A1
Solihull UD	A
Somerset, County of	‡A1
Southampton and Eastleigh	A
Southend-on-Sea Dist.	A
Southport	A
South Shields CB	A
Southwold	A1
Spalding UD	A1
Stafford MB	A
Staines	A
Stamford MB	A1
Stantonwick	A
Stevenage	A
Stockport	A
Stockton RD	A
Stockton-on-Tees B.	A
Stoke-on-Trent CB	A
Stoke Orchard	A1
Stourbridge MB	A
Stourport UD	A
Stowmarket	A1
Stratford-on-Avon MB.	A
Stroud (RD Area)	A1
Sunderland CB	A
Sunningdale	A1
Sutton Coldfield MB	A
Swadlincote UD	A
Swaffham	A1
Swanage District	A1
Swansea	A
Swindon District	A
Swinton UD	A
Tamworth MB	A
Taunton	A1
Tavistock	A1
Tenterden	A1
Teignmouth	A1
Tewkesbury	A1
Thames Haven	A
Thetford	A1
Thirsk RD	A
Thorpe Bay	A
Thurrock UDC Area	A
,, North of to Billericay	A
Tilbury	A
Todmorden MB	A
Tonbridge	A1
Torquay	A1
Totnes	A1
Trowbridge	A1
Truro	A1
Tunbridge Wells	A1
Tynemouth CB	A
Ulverston	A
Uppingham (Salop)	A1
Uttoxeter RD	A1
Uttoxeter UD.	A1
Wakefield CB	A
Wakefield RD	A
Walsall CB	A
Wallsend B	A
Walsden	A
Walton-on-Naze	A1
Ware	A
Warminster	A1
Warrington	A
Warwick MB	A
Wednesbury MB	A
Wellingborough UD	A
Wellington UD	A
Wellington (Somerset)	A1
Wells (Norfolk)	A1
Wells (Somerset)	A1
Welwyn	A
Welwyn Gar. City	A
West Bromwich CB.	A
Westbury	A1
Westcliff-on-Sea	A
Westerham	A1
West Hartlepool CB	A
Westmorland (except Kendal)	A1
Weston-super-Mare	A1
Weybridge	A
Weymouth (including Portland Bill, excluding Portland Stoneyards)	A1
Whitby UD	A1
Whitby RD	A1
Whitehaven	A
Whitley & Monkseaton UD	A
Whitstable and District	A1
Wickford	A
Widnes	A
Wigan	A
Wigton	A1
Wilmslow	A
Wilts, County of	‡A1
Wimborne	A1
Wincanton	A1
Winchester	A1
Windermere	A1
Wisbech	A1
Witham	A1
Withernsea UD.	A1
Woking	A1
Wokingham	A1
Wolverhampton CB	A
Wolverton District	A1
Woodbridge	A1
Woodhall Spa UD	A
Woodstock	A1
Worcester CB	*A
Workington	A
Worksop MB	A
Worthing	A1
Wrexham (incl. Cefn)	A
Wroughton	A1
Wylam	A
Wymondham	A1
Yate	A1
Yeovil Borough	A1
York CB	A
Ystalyfera	A

*For Birkenhead, Liverpool and London the rates are:—Craftsmen, 4s. 7½d.; Labourers, 4s. 1d. In the case of London the rate beyond the 12-mile radius is: Craftsmen, 4s. 7½d.; Labourers, 4s. 0½d. †Plus 2d. per working day. ‡This is the County rate and applies except where higher grades are stated.

NOTE.—Carpenters and Joiners providing own tools when employed in establishments operating under the Supplementary Rules for Woodworking Factories and Shops, receive 2d. per day; when employed on other building industry work, 4d. per day.

WOMEN'S RATES.—In all districts throughout the country the rate of wages for women engaged in craft processes is 3s. 7½d. per hour. Women engaged on work other than craft processes, 3s. 3½d. per hour.

For Building Trade Wages in Scotland see page 522

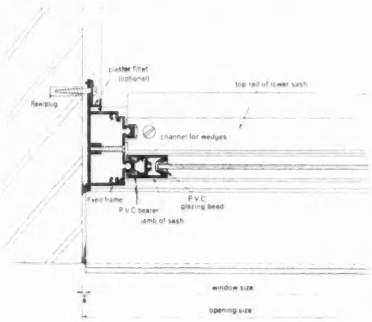
The Builder Review of PLANT & MATERIALS

Brick Palletising

A NEW leaflet has been issued by Signode, Ltd., Queensway, Fforesfach, Swansea, Glamorgan, illustrating their system for bundling bricks into packs of 50 with the use of steel tape or straps. This method does away with a permanent wood pallet, lifting holes being left in the bundle of 50 which is 9 in. thick and easily transportable by fork barrow, truck or crane. Demonstration films of this technique are available on request to Signode, Ltd.

Aluminium Double-hung Window

A completely new range of double-hung sash windows suitable for both domestic and commercial buildings has been introduced by Williams & Williams, Ltd., Reliance Works, Chester. Known as the 'Alomega' window, it is being produced in 12 standard sizes; 1 ft. 2½ in., 1 ft. 11½ in., 2 ft. 8½ in. and 3 ft. 5½ in. wide, and 3 ft. 8⅜ in., 4 ft. 8⅜ in. and 5 ft. 8⅜ in. high. Windows are supplied glazed with 24 oz. glass, and, being



aluminium, they do not need painting. There is no counter-balancing mechanism; a patented slide lock device is used that fixes the sashes in any position. The absence of counterbalances allows the jamb sections to be made comparatively slim.

Window Remote Control

Teleflex Products, Ltd., Basildon, Essex, are placing on the market a new addition to their range of window remote control gearing. Named 'Neatagear' and based on the use of a transmission cable ¼in. diameter, its principal use is for single top-hung or horizontal centre-hung windows. Two small operators are available, one with a cranked handle and shaped back half for corner mounting and the other with a flat back half and straight handle for mounting on flat surfaces. Junction units are provided to allow for two push points from a single operator.

Fluorescent Fittings

A new range of fluorescent lighting fittings has been announced by Falk, Stadelmann and Co., Ltd., of 91, Farringdon-road, London, EC1. Known as the 'Thames' range, it has been designed to provide a range of 30 fittings from a small number of basic parts.

TRADE NEWS

Distributors Appointed

J. E. Lesser & Sons, Ltd., manufacturers of 'Jeltek' protective clothing, announce the appointment of the following main distributors for their products:—Alexander Kenyon & Co., Ltd., Victoria-bridge, Manchester, 3 (Bla 8656 Telex 66-278), for Cheshire, Lancashire, Cumberland, Westmorland and N. Wales; Potter, Cowan & Co., Ltd., 54, French-st., Glasgow, SE (Bridgeton 3791) and at 100, College-st., Aberdeen (telephone: 51000), for Scotland. Contractors Services, 647, Upper Bitterne-rd., Southampton (telephone: 47923) for Hampshire, Dorset and Wiltshire.

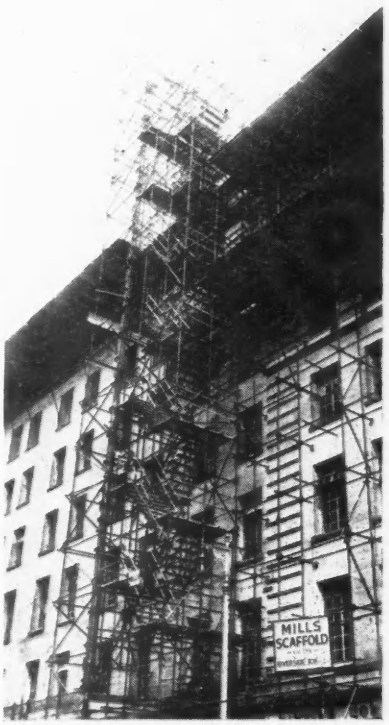
New Companies

A new company has been formed to produce and market a new non-metallic area-heating element. The company will be called Hunting Mhoglas, Ltd., at Luton Airport, Bedfordshire.

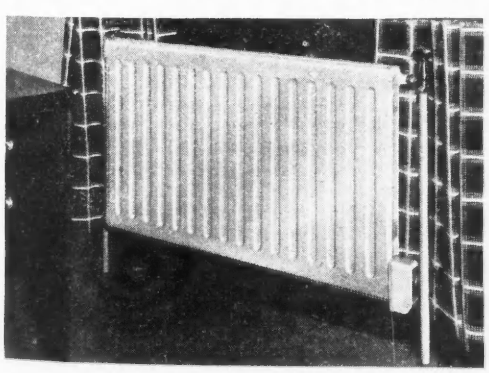
Expandite, Ltd., Chase-rd., London, NW10, manufacturers of sealing compounds and jointing materials, announce the formation of a subsidiary company, Expandite (Ireland), Ltd., at Greenhills-rd., Walkinstown, Dublin, telephone: 501512. T. Pooley, sales director, visited Dublin on August 14 on behalf of the parent company to attend the first board meeting.

Private Heating Exhibition

The Dravo Division of Weatherfoil, Ltd., 19, Berkeley-st., London, W1, are holding a private exhibition of their heating equipment at Birmingham in the Exchange and Engineering Centre, from Tuesday, September 24, to Thursday, September 26, inclusive, between 10 a.m. and 6 p.m. daily. The exhibition is also being held at Glasgow at the East Room, McLellan Galleries, from Tuesday, October 1, to Thursday, October 3, inclusive, between the same times.



SCAFFOLDING TECHNIQUE.—An independent scaffold tower incorporating both hoist and staircase gives access to the working platform of this job in Berkeley-street, W1. Two storeys are being added to the existing offices of Thomas Cook & Son, Ltd.; Architect, Samuel A. S. Yeo, ARIBA. The staircase has timber treads out of 9 by 3 boards. The scaffolding was erected by Mills Scaffold Co., Ltd., and the builders are Higgs & Hill, Ltd.



NEW HEATING TECHNIQUE.—The combination of an electric oil-filled radiator and a hot water radiator has been made to give greater flexibility to a central heating system. Intermittent, spring and autumn, heating can be supplied by electricity while the main winter load can be carried by the water system. In very cold weather both systems can be operated together. From Gulf Radiators, Ltd., 229, Regent-st., W1

Stone Back-Painting

The back-painting of all the stone masonry in the building of the Police Headquarters at Hull, illustrated in *The Builder*, of August 23 this year, was done with R.I.W. No. 110 damp resisting compound made by R.I.W. Protective Products, Ltd., of 325, White Horse-road, Croydon, Surrey.

OVERSEAS BUILDING

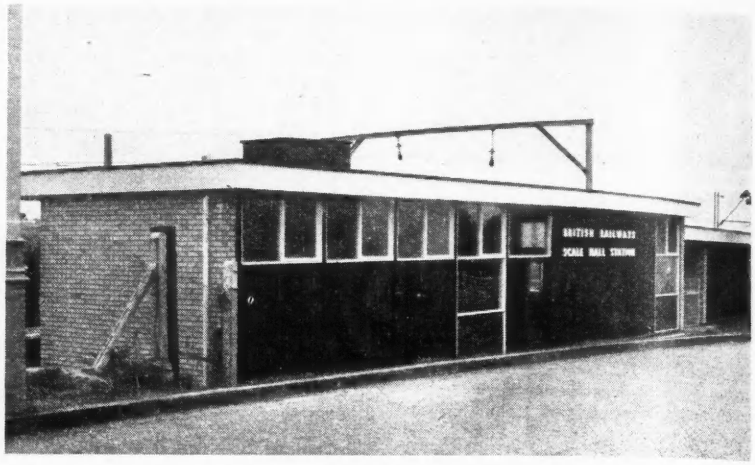
From Our Own Correspondents

ARGENTINE.—Bids for the Greater Buenos Aires thermo-electric power station have now been made known. Of the five complete bids submitted, two were made by British principals (Metropolitan Vickers; and British Thomson-Houston. Bids ranged from £40m. to £45m. Metrovic offered the lowest price. A special commission are examining the offers. . . . According to the Ministry of Industry, in the next five years the State will need a minimum of 1,134m. US dollars as basic overhead social capital; $310m. for electric power (or $500m. if the Buenos Aires power station and the Chocon hydro-electric station cannot be financed by foreign credits); $300m. for transport; $280m. for oilfields; $150m. for steel works; $40m. for highways; $32m. for communications and $12m. and $10m. respectively for the solid fuel and gas enterprises.

BRITISH EAST AFRICA.—The inquiry report commissioned by the Uganda Electricity Board from the Economist Intelligence Unit Ltd., states the likelihood of a second major dam and power station on the Nile being needed by 1965. It reaches the conclusion that such a project will in fact be required; the demand for electricity in Uganda is calculated to reach the neighbourhood of 500m. units by 1970. . . . It was announced by the UEB that a contract for 320 miles of transmission lines had been let to British Insulated Callender's Construction Co., Ltd., but a further contract for another 280 miles of line has gone to Elektra SPA of Rome in association with a local civil engineering concern.

CHINESE REPUBLIC.—The ancient Tartar city of Urumchi in Sinkiang Province, Outer Mongolia, is being transformed into a modern oil community as the centre of the Karamai oil project. . . . A provisional route for the world's highest railway has been mapped by China's Railway Design Bureau. This will be 1,250 kilometres in length and will run almost parallel to the Chinghai-Tibet highway from the southern edge of the oil-rich Tsaidam Basin into Tibet. The first pass will be 4,700 metres above sea level, and an altitude difference of 2,000 metres will be worked through the Kunlun Mountains.

HONG KONG.—Work is to start shortly on a 19-storey hotel and apartment house at the corner of Nathan-road and Middle-road, Kowloon, to plans by G. D. Su, authorised architect, of the Wing On Life Building, Des Voeux-road. Ten lifts, with escalator service to a first-floor shopping centre, will serve this, the highest building yet on the Kowloon Peninsula. . . . The Public Works Department have recently displayed a model of what will be the largest hospital in the Commonwealth—the new Kowloon General Hospital. Estimated to cost about $50m., it is expected to be completed in 1960. The main block of 13 storeys will contain 1,275 beds, plus a special children's section of 200 beds. Other buildings will include nurses' and sisters' quarters, nurses' training school, etc. Architects are Easton and Robertson, of London, in conjunction with the Public Works Department, Hong Kong, chief architect, G. P. Norton, ARIBA). . . . A nine-acre site in the crowded urban area has been reserved at Kowloon Tsai for a new park. Estimated to cost $300,000 this part on the site of a fire-ravaged squatter area will be developed by the Urban Services Department. . . . Mr. C. C. Cheng, authorised architect of 84, Fuk Lo Tsun-road, Kowloon, is preparing plans for an 11-storey flat block with shops on the ground floor, at 231, Nathan-road. The new building replaces a tenement house and is estimated to cost $600,000. . . . The Director of Education, the Hon. D. J. S. Crozier, has announced a construction scheme of 116 new primary schools during the next 10 years to provide a further 100,000 places for children in the Colony. The first batch of 48, to take about 28,000 children, will be put in hand immediately, 30 of them being in rural areas. Local private architects are being used to assist the PWD, working to type plans prepared in the architectural office. Running with this programme is a scheme to rebuild Northcote Teachers' Training College and increase its enrolment from 100 to 400.



NEW LANCASHIRE STATION.—The recently opened railway station at Scale Hall is the first entirely new one to be built by British Railways, London Midland Region, since the war. Situated on the Lancaster-Morecambe-Heysham line, it serves a new residential area of 1,700 houses. Designed by the architects' department of J. Taylor Thompson, MC, MICE, Chief Civil Engineer of the Region

THE PHILIPPINES. — Mr. Florencio Moreno, Secretary for Public Works in the Philippine Government has negotiated a US $50m. loan from the Japanese Import-Export bank to finance a hydro-electric power scheme on the Marikina River, about 40 kilometres from Manilla. Included in the agreement is the design of the 165 metres high arch type dam by the International Engineering and Development Co., of Japan.

PORTUGAL.—Preliminary work has begun on a site near Lisbon for the Atomic Energy Centre which is to have a physics building, a nuclear chemistry centre and office accommodation. In addition to the reactor and two particle accelerators there is to be a pilot plant for refining Portuguese uranium ore. Capital investment in the first phase up to the end of 1958 will be £375,000. . . . Contracts for the new steelworks have still not been placed though negotiations have continued between the customer and tendering groups. . . . A new fishdock is to be built at Pedroucos on the outskirts of Lisbon. Refrigeration firms are now being asked privately to tender for the cold storage plant to be erected in the dock area. The value of this contract is about £250,000.

THAILAND.—It is apparent that the Government intend setting up a domestic oil refining industry, and a number of proposals have been made, any one of which should suffice to meet the country's needs; fairly recently the Oceanic Petroleum Corporation of Panama, on behalf of a group of foreign and Thai concerns, submitted a proposal to build a refinery of 15,000 to 20,000 barrels capacity near the port of Sriracha. At the end of May the Shell Company of Thailand, Ltd., put forward a scheme for the erection of a refinery of 25,000 barrels daily capacity, which would utilise crude oil from Thai sources if suitable; the SR (Suriyon Raiva) group of Thai

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industries have also put forward a scheme of which no details are yet available. All the above proposals are under consideration.

TURKEY.—The Turkish Real Estate and Credit Bank (Emlak ve Kredi Bankasi) and the Workers' Insurance Organisation are financing the construction of 10,460 flats in Ankara. The site has been approved for the first section of the work which comprises the erection of 1,200 flats. Mr. Hasan Polatkan, the Minister of Finance, revealed recently that the Real Estate and Credit Bank proposes spending some £30m. on the scheme. The plan envisages 75 blocks of 16 flats each. The estate will also provide a primary school for 1,200 pupils, a shopping centre and a children's park. . . . During the last six years Turkey has made important strides in developing its electrical energy resources by the construction of hydro-electric plants on rivers like the Sakarya or the Seyhan, or by utilising second-grade coals in thermal power plants. Great progress has been made in the plan for the electrification of Western Anatolia, one of the most important regions of Turkey. Under the development programme the power station at Tuncbilek is being extended and preparations are also under way for the extension of the Sariyar dam and hydro-electric station where two more units will be added to the existing ones of 40,000 kW. Other plans are being made to meet the increasing needs of Western Anatolia. They include the construction of a 240,000 kw station at Kutahya and another one of 70,000 kW at Kesikkopru on the Kizilirmak river. . . . Several factories are to be built in the region of Canakkale. A wine factory is being put up by the Ministry of Monopolies at a cost of £1,250,000. A ceramics factory is to be built at a cost of £6m. aided by the Industrial Development Bank of Turkey. . . . A protocol has been signed between the Turkish Government on the one hand and two French firms, the Compagnie Francaise d'Enterprises and Baudin-Chateauneuf, and the Turkish firm Rar Turk, Ltd., on the other for the construction of a suspension bridge over the Bosphorous. The bridge is to be 1,400 metres long and 60 metres above sea level. The cost is given as £30m. but this seems to be a considerable underestimation. A preliminary survey is to be made before the final contract is concluded. According to press reports the work is to be finished in three years. . . . The same firms, French and Turkish, have signed a note of understanding with the Turkish Government for the construction of a hydro-electric power station over the river Euphrates at Keban. It is said that the power station is to be of 800,000 kw. capacity and will produce 5,000 million kwh of energy. It will be bigger than any hydro-electric power station in Europe. The final contract is subject to a survey to be made by the French firms, and should be prepared within three months. . . . The firm Wilhelm Wahman has been awarded a contract for the building of a hydro-electric station at Almus in the province of Tokat. The station will have a capacity of 27,000 kw. . . . According to press reports the Directorate-General of the State Railways have decided to build at Guverim near Ankara a railway centre comprising depots, workshops, repair shop, sheds for both steam and diesel locomotives, and a goods traffic station. This centre will occupy an area of one million square metres and will cost about £60m. It will release for sale valuable space in the centre of Ankara at present occupied by goods sidings.

Bridge Project, Vancouver

Estimated to cost over £6m., a four-lane bridge across the Fraser River upstream of the present Pattullo Bridge at New Westminster is to be built by the British Columbia Provincial Government as part of the trans-Canada highway. The total length will be nearly two miles, with a main span of 1,960 ft., at a height of 154 ft. above high water.

Building in the Union

According to the latest figures published by the South African Bureau of Census and Statistics, building plans passed in the Union's nine principal urban areas during the first six months of this year amounted to £14.2 million in respect of residential buildings and to £9.3 million for manufacturing, mining and other non-residential buildings. This is reported in the current 'Overseas Review' of Barclays Bank DCO. The comparable figures for the corresponding period of the previous year were £11.8 million and £12.0 million, respectively, the figure for all plans passed, including additions and alterations to buildings, totalled £27.8 million this year or some £400,000 less than during 1956.

While building activity in the Union as a whole has been slowing down since 1955, says the Bank, large and costly projects are still going ahead in many of the country's large urban areas. In Pretoria particularly, but also in centres such as Durban, Port Elizabeth and Bloemfontein, the last month or two have seen the commencement of many new buildings, while active conditions have also been reported from a number of country towns in all four provinces.

CONTRACTS OPEN

***India.**—Construction of a new wet dock behind the existing South Quay of Madras Harbour. Bids should be sent to the Chief Engineer, Madras Port Trust, Madras, 1, by November 11. Tender documents will be available for loan to UK firms in order of receipt of applications. Ref.: ESB/21831/57 (tel.: Chancery 4411, ext. 738 or 771).

***India.**—Railway wagon weight bridge, 50 tons capacity, for metre-gauge goods stock. Bids to the Director General of Supplies and Disposals, Shahjahan-rd., New Delhi, by September 25. Tender documents will be available for loan to UK firms in order of receipt of applications. Ref.: ESB/21521/57 (tel.: Chancery 4411, ext. 738 or 771).

WARWICKSHIRE DEVELOPMENT

Meriden Recommended to Restrict Land for Housing

MERIDEN RURAL COUNCIL is to be recommended to restrict severely future development of residential land in its area because a 'far too generous' provision in the past has not been taken up by the local population but by people from other areas.

A plans sub-committee report states that the trend would be detrimental to the green belt between Birmingham and Coventry if allowed to go unchecked.

There has been too much speculative development of comparatively large areas, the committee states. The report adds, furthermore, that the need for very strict control on future use of land in villages might lead the council to acquire land still available for development when the final definition of the green belt has been settled.

Height of Flats Reduced

BIRMINGHAM CITY COUNCIL has told Bromsgrove Council that four-storey maisonettes are to be built on Eachway Farm Estate at Rubery instead of eight-storey blocks of flats as originally intended.

The city council's original proposals aroused protests from a number of people in the Bromsgrove area, who urged that tall blocks of flats would frustrate the planning authority's efforts to maintain the area's scenic value.

CLLR. W. H. MILNER, chairman of Birmingham's house-building committee, said: 'While we are not prepared to kowtow to the selfishness of some local authorities who object to our plans for building on the periphery of the city, we are prepared to alter our plans if it is in the interests of good planning.'

* From the Board of Trade Special Register Information Service. The telephone number and extension at the end of the paragraphs relate to the department of the Export Service Branch, Lacon House, Theobalds-road, WC1, where further information can be obtained.

The SCOTTISH BUILDER

Scotland's New Towns

THE growth of Scotland's three new towns is described in the reports for the East Kilbride, Glenrothes and Cumbernauld Development Corporations for the year ended March 31, published on September 3.

At East Kilbride nearly 5,000 houses have been completed but the annual target of 1,000 new houses attained in each of the previous three years was not reached. This, says the report, was due to bad weather and to delay in obtaining approvals for a number of developments. Houses under construction at the end of the year numbered 1,104 and 378 were contracted for but not yet started. A private contractor is to build 38 houses for sale.

For the fourth year in succession the Corporation was awarded the Housing Commendation of the Saltire Society for good design. Four new industrial buildings and seven nest factories are likely to commence building shortly.

The standstill on new building projects at Glenrothes, imposed in November, 1955, was lifted and work began on 160 new houses. During the year 326 houses were completed and a building programme involving the erection of 3,228 houses in the years 1957 to 1961 was submitted for approval. The building of a hotel in the town centre will begin towards the end of 1957.

Early introduction of a new industry—Burroughs Adding Machines Ltd., with an ultimate employment potential of some 4,000 people has given the Cumbernauld Corporation a most encouraging start in their task of creating Cumbernauld as a self-contained town. The Corporation's first housing development consisting of 352 houses is intended to provide for workers from the Burroughs project. In addition plans are being prepared for a smaller scheme of 108 managerial and semi-managerial type houses and for further developments to a total of between 1,000 and 1,200 houses. A site for a primary school has been agreed.

Hutcheson-Gorbals Redevelopment

GLASGOW CORPORATION now seeks powers for the compulsory purchase of 1,146 houses, 104 shops, nine public-houses and a number of industrial plants as part of the Hutcheson-Gorbals redevelopment plan. This will cost between £17 and £18 millions and includes sections of Rutherglen-road, Lawmoor-street, Ballater-street, Waddell-street and Cumberland-street.

This is the second part of the area to be redeveloped in the first five years of the programme. An earlier compulsory purchase order has been presented for the first part. In addition a small area has been taken over as a clearance area under the Housing Act and work is actually in progress here on the rebuilding of housing. The three sections are part of a major scheme to replace the older Gorbals Hutchesontown area by modern housing of lower density, and of multi-storey-cum-smaller unit arrangement.

The plan will embrace a new shopping centre for the area as well as a section for service trades. The cleared area will give space for only 330 houses and this will mean use of multi-storey construction on a fairly extensive scale.

Crematorium Plans 'Too Elaborate'

GLASGOW has been told by the Scottish Office that its plans to build a municipal crematorium at a cost of £240,000 are too elaborate. Expressing agreement with the principle of providing the crematorium, the Scottish Office has told the Parks Committee that they were not satisfied that a building on the proposed scale was necessary at the present time.

Glasgow Baths

THE possibility of building swimming-baths suitable for Olympic events is being considered in Glasgow. The city has no baths where swimmers can practise under conditions similar to those at international meetings. Cost would be in the region of £600,000. This would provide a pond about 164 ft. long and 60 ft. wide. Depth would reach 16 ft.

North Ford Causeway

WORK has begun on the construction of the North Ford Causeway in North Uist—four and three-quarter miles of road and bridges which will bring the first permanent link between North Uist and Benbecula. For over two decades the project has been in the minds of the planners. When road classification was introduced the route to North Uist was numbered A865. The same number was given to Benbecula and the South Uist main road system.

Just before the war South Uist and Benbecula were linked by viaduct. But the only communication between Benbecula and North Uist was by motor-launch or, if the tide was out, a tractor. Now the two main islands will not be the only ones to benefit. One of the stepping-stones of the causeway will be the island of Grimsay.

Almost 200 tons of rock are being excavated from one of the islands to provide a foundation for the embankment which will keep the road above sea-level. Two bridges, one of 100 ft. span and the other 160 ft., will be built to allow navigable channels for fishing-vessels.

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SCOTTISH BUILDING TRADE WAGES

FOLLOWING are rates of wages authorised by the Scottish National Joint Council as from May 27, 1957. They apply to the whole of Scotland, including the islands of Orkney, Shetland, etc.

Grade A: Craftsmen 4s. 6d.; Labourers 3s. 11½d.

For apprentices, the rates are:

Year.	Percentage of Craftsman's rate.	For week of 44 hours s. d.
1st	25	49 6
2nd	33⅓	66 0
3rd	50	99 0
4th	66⅔	132 0
5th	75	148 6

For female labour, the rates are:

	s. d.
Operatives on craft operations (at end of probationary period)	3 11½
Operatives on labouring operations (at end of probationary period)	3 5½

NEW BUILDINGS

Argyll CC.—Tenders invited for erection of 20 houses at Tarbert, 4 at Glenbarr, 8 at Southend, 8 at Stewarton. Contractors prepared to tender on all trades basis should apply to County A, County Offices, Dunoon.

Ayr.—Dean of Guild Court approved £15,000 building programme at Scottish Stamping & Engineering Works, West Sanquhar-rd.

East Kilbride.—Terms approved by Scottish Department of Health and the Treasury for erection of factory at College Milton Industrial estate for Cincinnati Shaper Company.

Edinburgh.—Edinburgh Festival Society has acquired old Highland Church in Cambridge-st. to convert into offices for the Society. Est. cost £14,000.

Glasgow.—Plans approved by Corporation Housing Committee for 41 flats for aged or single persons, 696 three-apt., 308 four-apt. and 36 five apt. houses of two-storey cottage, four-storey maisonette and three- and four-storey tenement buildings, at South Nitshill.

Lanarkshire.—Road improvement scheme at Paddy's Rickle Bridge on the London-Carlisle-Glasgow-Inverness route, A74. Work includes reconstruction of 1,460 yds. of trunk road and diversion, 330 yds. long on part of which a new bridge over the Carlisle-Glasgow main railway line is to be built. Est. cost of works £130,000.

Midlothian CC.—Tenders invited for the supply, delivery and erection of steelwork for Currie jun. sec. sch. extension. Applications to County A, 32, Palmerston-pl., Edinburgh, 12.

Stirling.—Tenders invited for construction of sewage purification works. Gilbert Thomson & Son, constg. engrs., 164, Bath-st., Glasgow, C2. Sealed tenders marked 'Standburn Sewage Works' to County Clerk, County Offices, Viewforth, Stirling, by September 30.

NEW COMPANIES

THE FOLLOWING NEW COMPANIES, registered in England, have been announced by Jordan and Sons, Ltd., company registration agents.

Modern Homes Midlands, Ltd. (587063.) Regd. July 10. Star Chmbrs., Princes-sq., Wolverhampton. Bldrs., contrs. Nom. cap.: £1,000. Permt. dir.: A. D. Morris.

P. Ashburnham, Ltd. (588012.) Regd. July 29. 21/23, Hardess-st., Herne Hill, SE24. Bldrs., etc. Nom. cap.: £500. Dir.: B. P. L. Ashburnham.

F. C. Holmes, Ltd. (588033.) Regd. July 29. 26/30, County-chmbrs., Weston-rd., Southend-on-Sea. Bldrs. Nom. cap.: £5,000. Dir.: F. C. Holmes.

Rodwell & Sons, Ltd. (588062.) Regd. July 29. 270/272, Camden-rd., NW1. Bldrs., contrs. Nom. cap.: £20,000. Permt. dir.: C. W. Rodwell.

Batty & Lindley (Leeds), Ltd. (588067.) Regd. July 30. Wood Villa, York-rd., Seacroft, Leeds, 14. Pub. wks. contrs. Nom. cap.: £100. Dir.: C. H. Batty.

S. & E. Co., Ltd. (588088.) Regd. July 30. Bldrs. Nom. cap.: £100. Sub.: G. A. Crook, 51, Caversham-ave., N13 (co. dir.).

Eric Waller, Ltd. (588100.) Regd. July 30. 55, St. Mildred's-ave., Luton. Bldrs. Nom. cap.: £4,000. Sub.: Jean Herbert (co. dir.).

Weglow, Ltd. (588109.) Regd. July 30. 53, Windsor-rd., Slough. Bldrs. Nom. cap.: £1,000. Dir.: T. H. Loseby.

F. G. Parrott, Ltd. (588112.) Regd. July 30. Highridge, 4, Leverstock Green-rd., Hemel Hempstead. Bldg. and pub. wks. contrs. Nom. cap.: £1,000. Dir.: F. G. Parrott.

James E. Mallard, Ltd. (588125.) Regd. July 30. Commerce Hse., 6/8, Blagrave-st., Reading. Bldrs. Nom. cap.: £1,000. Dir.: J. E. Mallard.

Whittle & Co. (Contractors), Ltd. (588183.) Regd. July 31. 136, Flixton-rd., Urmston, Lancs. Bldrs. Nom. cap.: £500. Dir.: A. Whittle.

R. Harris & Son (Concrete), Ltd. (588200.) Regd. July 31. Orchard-rd., Barnstaple, Devon. Bldrs. and contrs. Nom. cap.: £5,000. Dir.: R. J. Harris.

Franks Bros., Ltd. (588215.) Regd. July 31. 3, Queen's-ave., Shirley, Solihull. Bldg. contrs. Nom. cap.: £15,000. Permt. dir.: H. Franks.

Brockway & Son, Ltd. (588222.) Regd. August 1. 48, West-st., Farnham, Surrey. Bldrs. and contrs. Nom. cap.: £2,000. Dir.: F. E. G. Brockway.

Frank Innes, Ltd. (588227.) Regd. August 1. 26, Nether Hall-rd., Doncaster. Bldrs. Nom. cap.: £3,000. Dir.: F. Innes.

Saville Brothers (Cleethorpes), Ltd. (588261.) Regd. August 1. 114, Penshurst-rd., Cleethorpes. Bldrs., contrs. Nom. cap.: £5,000. Dir.: B. Saville.

L. J. Willett & Co., Ltd. (588267.) Regd. August 1. 16, Camden-rd., NW1. Bldrs. Nom. cap.: £100. Dir.: L. J. Willett.

E. Gilderoy (Durham), Ltd. (588288.) Regd. Aug. 2. 11, Allergate, Durham. Bldrs. Nom. cap.: £4,000. Dir.: E. Gilderoy.

Fordingbridge Building & Drainage Co., Ltd. (588289.) Regd. Aug. 2. 3-4, Clements Inn, WC2. Nom. cap.: £100. Dir.: O. A. S. Cutts.

S. J. & D. Builders, Ltd. (588305.) Regd. Aug. 2. 4, Dunmow-cl., Loughton, Essex. Nom. cap.: £100. Dir.: S. J. Chumley.

J. E. Strutt, Ltd. (588321.) Regd. Aug. 2. 152, Hoe-st., E17. Bldrs. Nom. cap.: £500. Dir.: J. E. Strutt.

Pembroke Building Co. (Liverpool), Ltd. (588336.) Regd. Aug. 2. 11, Dale-st., Liverpool 2. Nom. cap.: £100. Permt. dir.: T. H. Mawdsley.

Rochford & District Building Co., Ltd. (588384.) Regd. Aug. 6. 381, Ashingdon Main-rd., Rochford, Essex. Nom. cap.: £1,000. Dir.: F. J. A. Adams.

Solent Development Co., Ltd. (588387.) Regd. Aug. 6. Hollybank Hse., Hythe, Hants. Bldrs. Nom. cap.: £500. Permt. dir.: C. G. W. Drewitt.

S. Huyton & Co. (Builders), Ltd. (588419.) Regd. Aug. 6. Nom. cap.: £100. Dir.: S. Huyton. Brookside, Alt-rd., Huyton, Lancs.

The Builder FUTURE CONSTRUCTION

Full details of Public Appointments open will be found in the Advertisement pages of this and previous issues.

CONTRACTS OPEN

For some contracts still open but not included in this list see previous issues. Those with an asterisk are advertised in this number. The dates at the heads of paragraphs are those for the submission of tenders; a dagger (†) denotes closing date for applications; the name and address at the end refer to the person from whom particulars may be obtained.

BUILDING

SEPTEMBER 25.

*†**Wanstead and Woodford BC.**—26 flats at Sultan-rd. Tooley & Foster, Midland Bank-chbrs., Buckhurst Hill, Essex.

*†**Willenhall UDC.**—54 flats at High-st., Portobello. Architect, Town Hall. Dep. £3 3s.

SEPTEMBER 26.

*†**Surrey CC.**—Adaptations at Beddington and Wallington, Bandon Hill county prim. sch. County A.

*†**Surrey CC.**—Additions at Claygate county prim. sch., Esher. County A.

SEPTEMBER 27.

*†**Essex CC.**—Extensions to County High School for Girls, Leyton. County A. (Est. cost £19,000.)

SEPTEMBER 28.

*†**Bristol City C.**—18 three-storey flats at Kendon-dr., Southmead. City A. Dep. £2 2s.

†**Burton-upon-Trent CBC.**—250 traditional dwellings and 40 garages at Edge Hill housing estate. Boro' A. Dep. £3 3s. Tenders by Oct. 30.

*†**Essex CC.**—Extensions at South West Essex Tech. College and School of Art. County A.

*†**Essex CC.**—Two additional classrooms and playground area at St. Andrews C. of E. (Controlled) prim. sch., North Weald. County A.

*†**Essex CC.**—Erection of Ivy Chimneys county prim. sch., Epping. County A.

SEPTEMBER 30.

*†**Wimbledon BC.**—Block of two flats at Leyton-rd. BE&S. Dep. £2 2s.

OCTOBER 1.

*†**Bedfordshire Standing Joint Committee.**—Five police houses at Runfold-ave. estate, Luton. County A.

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*†**Folkestone BC.**—One block of 12 flats at Harbour-way. (Fixed price tender.) BE, 2-10, West-terr. Dep. £2 2s.

OCTOBER 2.

*†**Durham CC.**—Renewal of wood floors, Stanley (Crook) J.M. county sch.; improvements to ventilation, Willington county sch.; police house and office, North-la., Elwick. County A.

OCTOBER 3.

*†**Swansea CB.**—60 flats at Terrace-rd. Boro' A. Dep. £2.

*†**Wolverhampton CB.**—Block of four shops with flats over and four garages at First-ave., and Low Hill. Boro' E. Dep. £2 2s.

OCTOBER 7.

*†**Gravesend BC.**—72 maisonettes and 32 flats at Park-place. BE&S, 6, Woodville-terr. Dep. £2 2s. Tenders by November 18.

*†**Twickenham BC.**—Sports pavilion at Kneller sec. mod. sch. playing field. BE, York House. Dep. £2 2s.

OCTOBER 9.

*†**North Riding CC.**—Divisional police station at Richmond, Yorks. County A, County Hall, Northallerton. Dep. £2 2s.

OCTOBER 10.

*†**Portsmouth City C.**—(a) 92 houses, Prospect Farm, Leigh Park; (b) 21 flats, Link-rd., Cosham; (c) 20 flats, King Albert-st. City A. Dep. £1 each contract.

OCTOBER 11.

*Reading CB.—Fixed price tenders for re-roofing 12 houses, Shinfield estate. Boro' A.

OCTOBER 12.

*Hornchurch UDC.—Repair and external treatment of walls of 74 houses. S. Dep. £2 2s.

OCTOBER 14.

*Bucks CC.—Improvements and additions at Wendover C. of E. sch. County A.

*Ossett BC.—All trade tenders for erection of 16 houses and incidental works at Dews Field. BS, Town Hall. Dep. £2 2s.

*Plymouth City C.—Basement excavation of proposed Civic Centre. G. A. Jellicoe & Ptnrs., 12, Gower-st., London, WC1. Dep. £3 3s.

OCTOBER 17.

*Barnes BC.—Fixed price tenders for the erection of 32 flats together with small outbuildings. BE&S.

NOVEMBER 16.

*Barnsley CB.—Fire Service Headquarters. BE. Dep. £2 2s.

MUNICIPAL AND CIVIL ENGINEERING WORKS, ETC.

SEPTEMBER 23.

*Braughing RDC.—5,300 yd. of 6 in. to 12 in. dia. stoneware and spun-iron pipe sewers, manholes, etc. 2,800 yd. of 6 in. dia. spun-iron pumping main, sewage disposal works, sewage and sludge pumping stations, etc. D. Balfour & Sons, M/MICE, 131, Victoria-st., SW1. Dep. £10.

SEPTEMBER 30.

Cheshire CC.—Improvement and widening of 700 yd. of Congleton road, Alderley Edge (A.34) including S.W. drainage. County S. Dep. £5 5s.

OCTOBER 4.

Doncaster RDC.—5,250 sq. yd. of carriageway and 2,850 sq. yd. of concrete flagged footpath at Campsall Park estate. S.

OCTOBER 7.

†Manchester City C.—New terminal apron at Manchester airport.—150,000 sq. yd. of double-slab concrete paving with drainage, etc. City S.

Nottinghamshire CC.—63 ft. skew span pre-stressed concrete bridge over railway at Checkerhouse level crossing, provision and placing of 100,000 cu. yd. of filling in approach embankments and construction of one mile of dual carriageways on East Retford by-pass, London-Edinburgh-Thurso trunk road. County S. Dep. £5.

OCTOBER 8.

Southam RDC.—Sewerage and sewage disposal works at Stockton, nr. Leamington Spa.

Richards & Dumbleton, Ccl's. constg. engrs., 45, Newhall-st., Birmingham, 3. Dep. £3.

OCTOBER 11.

East Lothian Water Bd.—5¾ miles of 8 in. dia. steel pipes and ¼ mile of 4 in. and 3 in. dia. asbestos-cement pipes from Whittingehame filter house to Spott Ford, 2¼ miles south of Dunbar. G. H. Hill & Sons (Manchester), civil engrs., 51, Mosley-st., Manchester, 2. Dep. £5 5s.

OCTOBER 18.

Easthampstead RDC.—Extensions to sewage disposal works at Sandhurst and 400 lin. yd. 7 in. dia. rising main. Howard Humphreys & Sons, Ccl's. constg. engrs., Victoria Station-hse., Victoria-st., SW1. Dep. £5 5s.

DECEMBER 9.

Worcestershire CC.—Construction of part of Ross spur motorway for three miles west from a point on Exeter-Leeds trunk road (A.38) just north of Tewkesbury, including crossing of River Severn at Queenhill (main span 240 ft.) with 1,800 ft. of viaduct approaches; road and railway crossing; two viaducts each 450 ft. long; access bridges, etc. County S. Dep. £50.

GENERAL BUILDING WORK

(LONDON)

Deptford.—GARAGE AND PETROL STATION.—The New Cross Empire has been bought for demolition by Oliver Cutts, of Streatham, SW, who plans to build a garage and petrol station on the site.

Hornchurch.—HOUSES, BUNGALOWS AND GARAGES.—Bylaw approval has been given to Leftley Bros. for 28 bungalows and 34 garages at Hunter-dr., Hornchurch; to T. M. Lucas for 12 houses at Mygrove-rd. and Berwick-rd., Rainham; to S. B. Youngs & Son, Ltd., for 21 houses at Front-la. and adjoining new street, Cranham, and to Upminster Estates, Ltd., for eight houses at 71-85, Marlborough-gdns., Cranham.

Hornchurch.—SHOPS AND MAISONETTES.—Bylaw approval has been given to Goodchild & Co. for 17 shops with maisonettes over at Avon-rd., Cranham.

(PROVINCIAL)

Ashington.—Quantities being prepared for new grammar sch. £150,000 est. County A, County Hall, Newcastle-on-Tyne.

Bellingham.—New prim. sch. to be built. Cost £120,000. County A, County Hall, Newcastle.

Billingham-on-Tees.—Work has commenced on the provision of roads and sewers on new industrial estate for UDC. S: E. Shaw.

Birmingham.—One 15-storey block of 91 flats and five 11-storey blocks, each of 67 flats, are to be built at Lyndhurst estate, Erdington. City A: A. G. Sheppard Fidler (F), AMTPI.

Blackpool.—BC proposes 72 three-storey flats and six shops with maisonettes over at Grange Park estate extensions.—RC Authorities propose new church at corner of Glastonbury-ave. and Park-rd. A: Sandy & Norris (F), 134, Newport-rd., Stafford.—Plans submitted to BC:—31 houses and garages at Hawes Side-la. and Highfield-rd. East for Matthews & Turner, Ltd.; 10 bungalows at Penrose-ave. for D. Stansfield, Ltd.; 10 bungalows at Edgeway-rd. for A. Ashworth, 23, Longridge-ave.; three-storey flats at Duchess-dr. and Lowther-ave. for Sir Lindsay Parkinson & Co., Ltd.; cold store, meat depot, garage and offices at Cornford-rd. for J. H. Dewhurst, Ltd.; petrol-filling and service station at Talbot-rd. for Shell Mex & BP, Ltd.

Blyth (Northumberland).—United Automobile Services, Ltd., Grange-rd., Darlington, are reviving their plan, deferred before the war, to build offices at Post Office-sq. 'bus terminus. A: A. A. Briggs (F), 10, Fleet-st., EC4.

Bolton.—TC to seek approval for layout of 254 dwellings.

Bradford.—EC approved erection of county sec. sch. and RC sch. at Myers-la.

Bury.—EC to seek Ministry approval for completion of Gigg jun. sch. in 1958/9 programme.

Consett.—M. of W. to start work next year on construction of new post office at John-st.

Cumberland.—EC to build new sec. sch. for 450 children at Aspatria. County A: J. H. Haughan (F), 15, Portland-sq., Carlisle.

Farnworth.—TC approved plans for 10 houses at Darley-st. for S. W. Prescott, 37, Thirlmere-ave., Standish.

Gosport.—Plans conditionally approved for six houses and seven bungalows at Whitworth-close for Bailey & Stride, Ltd.

Hebburn-on-Tyne.—UDC approved plans by County A, South-st., Durham, for RC grammar/tech. sch. at Mill-la.

Hebburn-on-Tyne.—Hawthorn Leslie (Shipbuilders), Ltd., Hebburn, are understood to to have plans under consideration for improving their facilities to allow construction of larger ships.

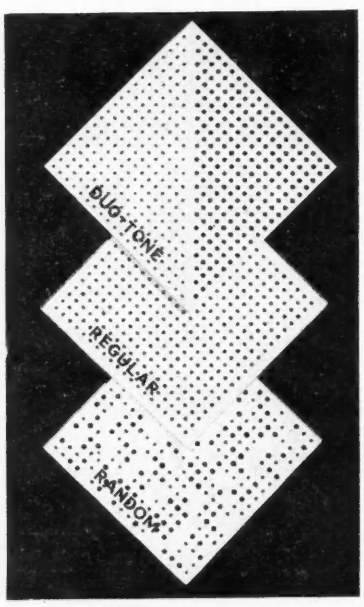
Hexham.—County mod. sch. to cost £120,000 is to be built by Northumberland EC at Corbridge. County A, County Hall, Newcastle.

Manchester.—Harry S. Fairhurst & Son (F/A), 55, Brown-st., Manchester, are A for extensions to Christie Hospital at Wilmslow-rd., Withington, for Manchester Regional Hospital Bd.—Plans submitted by J. C. Lawrence & Ptnrs., 63, Brown-st., Manchester, for new factory at Shentonfield-rd., Northenden, for Charles Hirst (Tool Makers), Ltd.—New factory and offices proposed at Leestone-rd. and Shentonfield-rd., Northenden, for Ajello Pianos, Ltd. A: Young & Purves (F), 32, The Crescent, Salford, 5.

Newcastle-on-Tyne.—City A. G. Kenyon, (A) AMTPI, 18, Cloth Market, has been asked to report on possibility of erecting 10-storey blocks of flats at Heaton Park-rd. and Brunel-terr.

Newcastle-on-Tyne. — Newcastle Diocesan Board of Finance proposes carrying out school building and alteration programme during next few years at cost of £130,000 and is appealing for funds. Proposals include new sec. mod. schools at Humshaugh and Rothbury, modernisation of Tynemouth Christ Church prim. sch., erection of new St. Anthony's School at Newcastle, and remodelling of schools at Longbenton, Chatton, Healey, Alnwick and Tritlington.

Newcastle-on-Tyne.—Charlton, Weddle & Co., Manors Works, Newcastle, new company formed to manufacture and install all types of industrial and marine pipework, to erect 20,000 sq. ft. factory at White-st., Newcastle.



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Newcastle-on-Tyne. — Extensions costing £100,000 proposed to central police station for City C. City A: G. Kenyon (A), AMTPI, 18, Cloth Market.

Nottingham. — TC approved preliminary plans for new central library.

Oxford.—Plans for new department of metallurgy at Parks-rd. conditionally approved by TP Com. A: Basil Ward (F), of Ramsey, Murray White & Ward, 32, Wigmore-st., W1.

Redcar.—ICI, Ltd., to build new Terylene plant at Wilton, £20 million est., and to extend capacity of existing plant by about 35 per cent.

Ripley.—Coal Industry Social Welfare Organisation proposes erection of new welfare headquarters, £30,000 est. A: C. F. Cooper (A), The Croft, Chapel-la., Holloway, Matlock.

Rotherham.—BC proposes aged persons' hostel at Browning-rd. and Chaucer-rd.

Scarborough.—North Riding EC has appointed W. V. Zinn & Associates, Eagle-st., Holborn, WC1, as consulting structural engineers for new Scarborough technical college. Est. cost £355,000, A: Gollins, Melvin Ward & Ptnrs., 15, Manchester-sq., W1. Tenders expected to be obtained next year.

Sheffield.—Regional Hospital Bd. to prepare plans for recreational building at Wathwood hospital, Wath-on-Dearne. Propose upgrading of 'Long Block' for chronic patients at Kendray hospital, Barnsley; reconstruction of ground floor of Jenner Block and X-ray department at Nottingham City hospital, and provision of accommodation for 25 chronic patients at Ward 5, Markfield hospital.

Shrewsbury.—BC proposes erection of 24 aged persons' bungalows at Race Course-ave. and Longden Green.

Stockport.—Stockport Industrial and Equitable Co-operative Soc., Ltd., propose erection of single-storey funeral furnishing dept. and mortuary at junction of Manchester-rd. and Cambridge-rd.

Sunderland.—TC received loan sanction for £158,811, for Broadway County sec. sch. and £157,857 for new Farringdon county sec. sch.

Sunderland.—RDC to build 118 houses at Tunstall Bank. S: C. Emmerson.

Thornaby-on-Tees.—TC considering erection of houses for employees of Imperial Chemical Industries, Ltd.

Todmorden.—Brearley Manufacturing Co., Ltd., propose extensions to their premises.

Tynemouth.—S. Storer, builder, North Shields, to erect Dutch bungalows at Kennersdene Park estate.

Walsall.—EC approved plans for erection of jun. dept. at Gipsy-la. county prim. sch., £60,480 est.

Wallsend.—Major extensions proposed to works of Wallsend Slipway and Engineering Co., Ltd., to facilitate fitting-out and completion of large oil tankers.

Wallsend.—Clelands Shipbuilding Co., Ltd., Wallsend, has been formed to lay out shipyard with two berths at Willington Quay. Managing director: K. F. Craggs.

Warrington.—BC proposes erection of four-storey maisonettes on site between Napier-st. and Mersey-st., Howley.

Whitley Bay.—Three-storey extension providing for another 42 bedrooms is proposed at Rex Hotel. A: Henry Gatoff (A), 51, Grainger-st., Newcastle-on-Tyne.

Whitley Bay.—Plans being prepared by Leonard Netts, 36, Jesmond-rd., Newcastle-on-Tyne, for three-storey block of flats (12 units) at junction of Blyth-rd. and Links-avenue.

TENDERS

* Denotes *accepted.*
† Denotes *provisionally accepted.*
‡ Denotes *recommended for acceptance.*
§ Denotes *accepted subject to modification.*
¶ Denotes *accepted by H.M. Government Depart-*
Full details of Public Appointments open will be found in the Advertisement pages of this and previous issues.

Basildon.—Works for UDC. E&S, 108, High-st. Billericay. (a) 31 houses, Pound-la., Laindon. (b) 37 houses, Delhi-rd., Pitsea. *C. H. Beckwith, Ltd., "Coombes," Stambridge-rd., Rochford, Essex. (a) £44,870; (b) £55,253; 37 houses, Delhi-rd., Pitsea. *L. H. H. Clowes, "Little Farthings," Western-rd., Billericay, Essex. £44,870.

Birkenhead.—New church and Sunday school at Pemberton-rd., Woodchurch estate, for Methodist Authorities. *Frederick Clark & Sons, Ltd., 191, Heyworth-st., Liverpool.

Birmingham.—New licensed premises at corner of Quinton-rd. and Grove-la., Harborne, for Mitchells & Butlers, Ltd. *C. Green & Sons, Ltd., 132, Monument-rd., Birmingham.

Brierley Hill.—New block of shops and offices at High-st., for Dudley Co-operative Soc., Ltd. *E. Fletcher (Builders), Ltd., Kingswinford, Staffs.

Brighton.—Two-class infants' sch. proposed at Saltdean, £10,000 est. Boro' S and E, King's-rd., Brighton, 1.

Brighton.—Reconstruction work at Devonian Court, for Brighton, Worthing & District Property and Investment Corporation, Ltd. A: L. H. Fewster & Ptnrs., 5a, Liverpool-gdns., Worthing. QS: G. C. Winton, FIQS, 44, High-st., Findon, Sussex. *J. W. Ridge, Ltd., 42, Portland-st., Brighton. £15,800.

Bury.—New science block at Bury grammar sch., for Board of Governors. *John Tinline, Ltd., Park-st., Sawmills, Bury.—70 houses at Littlewood estate, for TC. *Middleton & Co. (Blackpool), Ltd., Blackpool. £68,113.

Colne.—12 houses and 18 flats at Lob Common site, for TC. *Direct labour. £43,143.

Dewsbury.—Extensions to X-ray department at General Hospital, for Leeds Regional Hospital Board. *West & Son (Dewsbury), Ltd., 15, Wesley-rd., Leeds.

Doncaster.—New factory, for British Ropes, Ltd. *Henry Boot & Sons, Ltd., Banner Cross Hall, Eccleshall-rd. South, Sheffield. Steelwork, *James Austin & Sons (Dewsbury), Ltd.

Egham, Surrey.—Alterations and extensions to 'Commoners,' Englefield Green, for Lord Wynford. A: Chas. Smith & Son (F/A), 164, Friar-st., Reading, Berks. *J. M. Jones & Sons, Ltd., Maidenhead. (Negotiated contract.)

Eston.—Works for UDC at Teesville East estate, Normanby. E&S: N. C. Harrison, AMICE, MIMunE. 20 houses, *J. H. Fawcett, 30, South Park-ave., Normanby, Middlesbrough, £26,460; 10 houses, *Balderson & Lee, Middlesbrough-rd., South Bank, Middlesbrough, £13,664; 28 houses, *P. Golden, Bevanlee-rd., South Bank, Middlesbrough, £35,998; 54 houses, *Chas. J. Boyd, Ltd., 15, Emmerson-st., Linthorpe, Middlesbrough, £77,302.

Gateshead.—Research block for Clarke, Chapman & Co., Ltd., engineers. *C. Brims & Co., Pandon-bldgs., City-rd., Newcastle.

Gateshead.—Block of offices at Coulthards-la. for Wright, Anderson & Co. *Bewley & Scott, Ltd., Dunston, Gateshead.

Liverpool.—Rebuilding part of garage premises at 13, Oldham-st., for W. Watson & Co. (Liverpool), Ltd. *Wm. Moss & Sons, Ltd., Roscoe-st., Liverpool.—Extensions to bakery at Soho-st., for George Lunt & Sons, Ltd. *J. & E. Aspinall, Ltd., Signal Works-rd., Liverpool.—Erection of Women's Hall of Residence at Mossley Hill-rd., for Senate of University of Liverpool. *Bovis, Ltd., 1, Stanhope-gate, W1.

¶London (Admiralty).—Particulars of contracts over £1,000 in value:—*Monmouthshire*: Renewal of filtering media, Turriff Construction Corpn., Ltd., Budbrooke-rd., Warwick. *Wilts*: External painting, T. H. Kenyon & Sons, Ltd., Exeter-rd., Topsham, Devon. *Hants*: Relaying railway tracks, A. E. Farr, Ltd., Station-rd., Westbury, Wilts. *Fife*: Building work, George Smith & Sons, 2, Victoria-rd., Kirkcaldy; cladding steel-framed building, Geo. Wimpey & Co., Ltd., 37, Drumsheugh-gdns., Edinburgh, 3. *Hants*: Grass seeding and turfing, Growers Services (Emsworth), Ltd., Maisemore Farm, Westrd., Hasworth, Hants. *Fife*: Construction of lift well, James Keenan & Co., Ltd., 19, Cartmore-rd., Lochgelly, Fife. *Warwickshire*: Repairs to water towers, Concrete Proofing Co., Ltd., 96, Victoria-st., SW1. *Lancs*: Laying of earth wires, Thomas Croft & Sons, Ltd., Holme Slack Works, Blackpool-rd., Preston.

¶London (Air Ministry).—New works contracts to value of £500 or over for week ended September 13:—Painting work: Boscombe Downs, Wilts., C. A. Hayes & Sons (Painting), Ltd., Stock-hse., Hotwells, Bristol, 8; Anglesey, Seddon (Stoke), Ltd., 55, Duke-st., Fenton, Stoke-on-Trent. Artificers' work: Chicksands, Beds., M. & F. O. Foster & Co., Ltd., York-rd., Hitchin, Herts; Dumfries, Robinson & Davidson, Ltd., St. Catherines Gate, Annan-rd., Dumfries, Scotland. Building work: Leuchars, Fife, John Carnegie & Son, Ltd., 35, Seafield-rd., Dundee.

London (British Railways).—Recent contracts placed by North Eastern Region:—Hull George-st. offices: cold water supply, H. Pickup, Ltd., Scarborough.—York carriage and wagon works: builders work, E. Hood, York.—Darlington loco. works: turret lathe, A. Herbert, Ltd., Coventry.—Five hydraulic press units, British Timken, Ltd., Northampton.—Regional work study school, Harrogate: alterations, Wm. Mason & Co., Ltd., Leeds.—Thornaby motive power depot: 'Orlit' framework, foundations, etc., Tarslag, Ltd., Stockton-on-Tees.—Blaydon motive power depot: provision of inspection pit, ducts and drainage, Haddon & Hillman, Ltd., Newcastle.

London CC.—Contracts recently placed by Council:—Repairs and decorations at de Beauvoir county prim. sch., Hackney. *Douglas Grant & Ptnrs., Ltd., £18,870.—Construction of blocks 7 and 8 and other work at Squirries-st. site, Bethnal Green. *Rush & Tompkins, Ltd., £323,862.—New county sec. sch. at Beechcroft-rd., Wandsworth. *S. G. and A. Agombar, £290,838.—Construction of blocks 61 and 62 and other works at Ashburton estate (Health Centre site) Wandsworth. *M. Howard (Mitcham), Ltd., £116,755.—Alterations, repairs and redecorations at Shacklewell county prim. sch., Hackney. *S. C. Grover, Ltd., £18,459.—Erection of extension at Hallfield county prim. sch., Paddington. *Hussey Bros. (Builders), Ltd., £23,800.—New Roehampton, Star and Bassant schools and schoolkeeper's house, Wandsworth. *Thomas & Edge, Ltd., £192,909.—Renewal and improvement of electrical installation at Hackney technical college, Hackney. *Powerlite Electrical Installations, Ltd., £13,000.

¶London (MoW).—Contracts placed for week ended September 7:—*Cambridgeshire*: Government Site, Brooklands-ave., erection of workshop and garage, etc., L. J. Few-Mackay, Ltd., 43, Water-st., Chesterton, Cambridge. *Derbyshire*: NAB and IRO, New-sq., Chesterfield, alterations and adaptations, L. W. Crossley, Rear 48a, Newbold, Chesterfield. *Hampshire*: Cosham, erection of new post office, sorting office, etc., J. Hunt, Ltd., South Wharf, Cleveland-rd., Gosport. *Hertfordshire*: Stevenage, erection of fuel research station, Turriff Construction Co., Ltd., Budbrook-rd., Warwick. *Kent*: Valve Factory, Charlton Green, Dover, alterations and decorations for Post Office foreign parcels depot, C. Jenner & Son, Ltd., 5/9, Bouverie-rd. East, Folkestone. *Lancashire*: Hatton-gdn., Liverpool, extension of parcels office, Sir A. McAlpine & Son, Ltd., Hooton, Little Sutton, Wirral, Ches.; Moorgate-rd., Simonswood (Kirby), erection of telephone exchange, R. Costain & Sons (Liverpool), Barlows-lane, Liverpool, 9; Ministry of Supply, Derby-hse., Exchange-bldgs., Liverpool, internal decorations, Wm. Morris & Brother, Ltd., 14, Colquitt-st., Liverpool, 1; Customs & Excise, Langton-st., Liverpool, new office building, Wm. Tomkinson & Sons, Ltd., 7-31, Gt. Newton-st., Liverpool, 3. *London*: Clelandhse., Page-st., SW1, internal decorations, Sykes & Son, Ltd., 8, Essex-st., Strand, WC2; Somerset-hse., Strand, WC2, internal decorations, Sykes & Son, Ltd., 8, Essex-st., Strand, WC2; 111, Baker-st., W1, alterations to form new branch post office, E. J. Lacy & Co., Ltd., Steele-rd., NW10; Hercules-hse, SE1, occupational services, R. Costain, Ltd., 111, Westminster Bridge-rd., SE1. *Northumberland*: MPNI, Queen's-sq., Newcastle, new roofing, plumbing, flooring, etc., A. Reynolds & Co., 8, Cottenham-st., Newcastle-on-Tyne, 4. *Somerset*: Station sorting office, Taunton, alterations, new welfare accommodation, F. & E. Small, Priory, Taunton. *Staffordshire*: Post Office engineering depot, Coseley, erection of prefabricated garage, H. J. Amies & Sons (Builders), Ltd., Melbourne-st., Wolverhampton. *Warwickshire*: City of Birmingham, surveyors' maintenance, Holdsworth & Son, 1200 Goventor-rd., Birmingham, 25. *Worcestershire*: Honeybourne airfield, nr. Evesham, internal and external painting, Baxter Bros. (1920), Ltd., 182, Sherlock-st., Birmingham, 5. *Yorkshire*: Albert Dock, Hull, erection of offices, J. Mather & Son, Ltd., Leads-rd., Stoneferry, Hull.

¶London (War Dept.).—Contracts placed for week ended September 6:—*Devon*: Miscellaneous, Philpott & Co. (Builders), Ltd., Okehampton. *Essex*: Painting and decorating, George Jones & Son (Contractors), Ltd., London. *Hampshire*: Painting, Donald Humberstone & Co., Ltd., Louth; Building, Ricketts Bros., Farnham; Sherfields (Farnham), Ltd., Farnham; Painting and decorating, S. Spencer & Co., Ltd., Southampton. *Kent*: Roadwork, W. H. Bensted & Son (Contractors), Ltd., Maidstone. *Middlesex*: Roofing, Adlon Erectors, Ltd., London. *Norfolk*: Roadwork, May, Gurney & Co., Ltd., Norwich. *Northumberland*: Roadwork, H. V. Smith & Co., Ltd., Edinburgh. *Surrey*: Building, F. Kirkham (Croydon), Ltd., Croydon.

Maidenhead.—Factory at Cox Green, for Ellay Tubes, Ltd. A: Bowden, Bennett & Rule (A/A), Birch Cottage, Wiltshire-rd., Crowthorne, Berks. *J. M. Jones & Sons, Ltd., Maidenhead. (Negotiated contract.)

Manchester.—Multi-storey office block on site bounded by Corporation-st., Cannon-st., Old Millgate and Hodgson-ct., for British Engine, Boiler & Electrical Insurance Co., Ltd. *John Laing & Sons, Ltd., London.—New office block at St. Ann's-sq., for Royal Insurance Co., Ltd. *John Laing & Sons, Ltd., London.

Morpeth.—12 houses at Widdrington for RDC. S: J. R. Miles, Howard Castle, Dacre-st., Morpeth. *R. Carse & Son, Ltd., Amble (subject to Ministry approval).

Newcastle-on-Tyne.—Laboratory block at Church high sch., Tankerville-terr. A: Newcombe & Newcombe (A), 23, Eldon-sq., Newcastle. *H. Waller, Ltd., St. Michaels-rd., Newcastle.

Newcastle-on-Tyne.—35 flats and maisonettes in three-storey blocks at Fairways estate for City C. City A: G. Kenyon (A), AMTPI, 18, Cloth Market, Newcastle. *Thomas Armstrong, Ltd., 16, Robson-st., Newcastle.

Newcastle-on-Tyne.—156 flats in three-storey blocks nr. Wharrier-st. and Walker-rd. for City C. City A: G. Kenyon (A), AMTPI, 18, Cloth Market, Newcastle. *William Leech (Builders), Ltd., St. James-st., Newcastle-on-Tyne, £214,159.

North Riding.—Modern sch. at Northallerton for CC. A: D. C. Hall (F), 6, Masons-yd., Duke-st., St. James's, SW1. QS: Davis, Belfield & Everest, 9, Ashley-pl., SW1. *R. B. A. Moody Bros. (Contractors), Ltd., Northallerton, Yorkshire, £104,340.

Nottingham.—New surface buildings at Gedling Colliery, for National Coal Board. *Ford & Weston, Ltd., Osmaston-rd., Derby.—Alterations to premises at Carrington-st., for Lloyds Bank, Ltd. *Ford & Weston, Ltd., Osmaston-rd., Derby.

Redcar.—New Wilton (Lazenby) county prim. sch. for North Riding EC. County School A: D. W. Dickenson (F), County Hall, Northallerton. *J. T. Tarran & Son, Ltd., Yarm, Yorkshire, £23,912.

Redcar.—School for ESN children for North Riding EC. A: Richard Sheppard & Ptnrs. (F/A/A), 5, Southampton-pl., WC1. QS: David, Belfield & Everest, 9, Ashley-pl., SW1. *F. Shepherd & Sons, Ltd., York, £41,508.

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Scottish Special Housing Assn., Ltd.—Contracts placed June 19 to August 20:—Gallowshade, Forfar, 30 trad., Bett Bros., Ltd., Downfield, Dundee, brick, etc.; Alex. Hay & Co., Chapel-st. Works, Forfar, joiner; David Langlands & Son, 11, Queen-st., Forfar, plumber; James Russell, 28, South-st., Forfar, plasterer; W. Brand & Son, Ltd., 30, Dishland-st., Arbroath, roof tiler and roughcast; Donald & Smith, Ltd., 23, Baltic-st., Dundee, glazier; R. M. Meekison & Son, 31, Market-pl., Arbroath, painter; Lowdon Bros. & Co., Ltd., 37, North Tay-st., Dundee, electrical; Wylie-st., Hamilton, 36 Weir flats, Weir Housing Corporation, Calder-st., Coatbridge, all trades; Forehill-rd., Ayr, 82 Dunedin, Jas. Laidlaw & Sons, Ltd., Rutherglen, all trades; Faifley, Clydebank, 136 n/f flats direct labour, all trades.

Shardlow, Derbys.—Extensions to offices at Risley, for United Kingdom Atomic Energy Authority. *M. J. Gleeson, Ltd., 822, Chesterfield-rd., Sheffield.

Sheffield.—30 dwellings at Stradbroke-dr. and Ravenscroft-pl., for TC. *E. A. & H. A. Tomlinson, Ltd. £36,898.

South Shields—Additions to Town Hall. *G. H. Plemper, Ltd., Old Chester-rd., Sunderland, £105,000.

Stretford.—Extensions to the Royal Works, Elsinore-rd., for James Collins & Co., Ltd. *Roy & Ptnrs., Ltd., 66, Blackfriars-rd., Salford.

Sunderland.—Extensions and offices for Jobling & Co., Ltd. *Thomas Clements & Sons, Selborne-gdns., Newcastle, £60,000 (approx.).

Tynemouth.—New fire station at Preston North-rd. *R. Jordan, Back Queen Alexandra-rd., North Shields, £81,000.

Washington.—36 flats at Coach-rd. estate for UDC. S: T. E. Crowe. *William Leech (Builders), Ltd., St. James-st., Newcastle-on-Tyne, £37,776.

Williton, Somt.—New atomic power station and ancillary works at Hinckley Point for Central Electricity Authority. Constg. A: Frederick Gibberd, CBE (F), MTPI. *English Electric, Babcock & Wilcox and Taylor Woodrow Atomic Power Projects Group. £60 million.

Wisbech.—Second instalment of Isle of Ely College for Isle of Ely EC. *Bettles Building Co., Ltd., Peterborough, £102,890.—Horticultural Station buildings and roadways at Isle of Ely College. *Clifford Jellings, Ltd., Peterborough, £33,965 (subject to approval of Min. of Agriculture, Fisheries and Food).

Workington.—Extension of 20,000 sq. ft. to factory of Fischer & Porter, Ltd., for West Cumberland Industrial Development Co., Ltd., Roper-st., Whitehaven. A: Ronald Ward & Ptnrs. (F/A), 29, Chesham-pl., SW1. *John Laing & Sons, Ltd., Dalston-rd., Carlisle.

Worthing.—20 aged persons' flatlets and warden's house at Coastguard Cottages site, Brighton-rd., Lancing, for RDC. AE&S: D. H. McKerchar, AMICE, MIMunE, 15, Mill-rd., Worthing. W. J. Frewing, Ltd., £27,822; J. M. Hill & Sons, Ltd., £26,173; F. G. Scrace (Worthing), Ltd., £25,835; Greenaway & Sons, £25,774; Beamish (Builders), Ltd., £23,973; H. J. Paris, Ltd., £23,529; *Gorham (Contractors), Ltd., Goring, Worthing, £22,992.

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